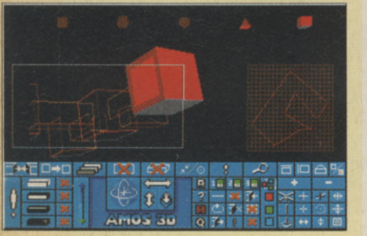
Issue 142 • 27th July 1991 • 88p

NEW COMPUTER EXPRESS

TONS OF **TIPS** FOR YOUR MACHINE see pages 16-25, 31-33, 44-45

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

AMIGA



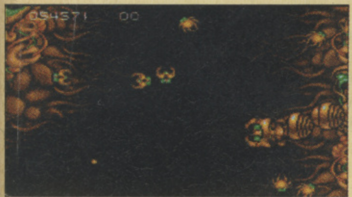
AMOS 3D
Simple to use – but a world beater?

PC

TURBO C++
PROFESSIONAL
TURBO C++
PROFESSIONAL

BIG BUSINESS
Why did Borland buy Ashton Tate?

GAMES



FRENETIC
– or just tame?

EVIL INFLUENCES THREATEN PUBLIC DOMAIN

SICK!

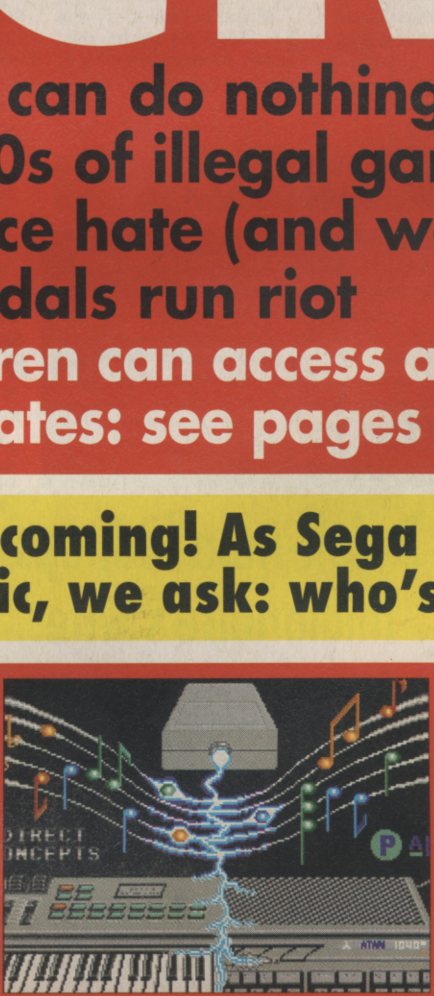
- **PORN:** police can do nothing
- **PIRACY:** 1,000s of illegal games
- **VIOLENCE:** race hate (and worse)
- **VIRUSES:** vandals run riot

Even schoolchildren can access all this...
Express investigates: see pages 6&7

The Japanese are coming! As Sega buys Virgin Mastertronic, we ask: who's next?

Desk File View Sort Options
18 items in 87195 b
FLOPPY DISK
PRINTER
FLOPPY DISK
FLOPPY DISK
TRASH
DESKTOP.INF
DJ_RESET.ACC
AUTO
ACC
lipboard

Atari ST: which desktop should *you* use? – p55


DIRECT CONCEPTS
ATARI 1040ST

Daatasound music utilities – a surprising package? p49

Future PUBLISHING
Your guarantee of value

20
C.C.4.
②

Frontend

Once again, Frontend lends an ear to the omnipresent number chomping of computers doing their thing. Or not, as seems far too often the case...

SCHOOLBOY HACKS STARS' BT SECRETS

When you reach the exalted status of 'Star', two of the luxuries you expect is a private address and an ex-directory number.

But all this can be blown away in a matter of minutes if an 'experienced' hacker such as 15 year old Simon Mackie decides to go after you details.

BROSS BRASSED OFF

Simon, who comes from Marchamley Wood, Shropshire, managed to extract the home addresses of such celebrities as Matt Goss (of Bros fame), Boy George (of Boy George fame), John Major (of *Spitting Image* fame) and even comedian John Cleese (ironically of BT's Talking Pages advertising fame).

Simon achieved this feat simply by tapping into the BT computer while on a work experience scheme at a Newport based communications firm.

• Bros member Matt Goss was the just one of the many stars and even politicians who's private address was uncovered by a fourth year schoolboy from Shropshire. The youngster's cheeky actions made use of BT's own on-line directory and passwording system.

Mackie was able to convince BT's PhoneBase directory that he was an official BT worker by using the system's own password.

While Simon did not actually manage to get hold of the ex-directory telephone numbers of the stars in question, who also included Neil Kinnock and the Rev Iain Paisley, he got too close for BT's comfort. The company for which he was working reported his activities to BT, which in turn quickly closed up the comms loophole before someone really important was bothered. ■

Sexist, racist, violent – lowdown on LA lawmen

Comments typed into the Los Angeles Police Department (LAPD) Mobile Digital Terminal (MDT) system by officers on duty have shown some of them up as sexist, racist and extremely violent.

The terminals are used in squad cars to relay messages to and from serving officers. These messages are normally of an operational nature, to do with directions and possible hazards. However, the following examples of communications were tracked down, using the computer technology, by the Christopher Commission which is looking at possible reforms of the LAPD:

'Capture him, beat him, treat him like dirt... ', 'U (sic) won't believe this ... that female call again said susp (sic) returned ... I'll check it out then I'm going to stick my baton in her', 'Sounds like monkey slapping time'.

Evidence from these digital records has led to recommendations that LAPD's chief, Daryl Gates, should now retire and that all MDT messages should be closely monitored. ■

• Even in the most fraught of situations, Columbo would never have thought of using sexist or racist language. Some lawmen do, and that's when computers nab them.

IT'S NORWAY TO TREAT A-BOMB

Two Norsk Data ND-5400 computers are at the centre of a possible atomic bomb scandal in Norway.

An unnamed Norsk Data executive and a man described as 'a businessman' have been arrested in connection with the sale of the computers to a Pakistani-owned company, Whyte Energy Services Ltd. Whyte paid twice the going rate for the dated machines. It is thought that the ND-5400s were intended for use in the Pakistan Ordinance Factory in Wah near Islamabad, which is thought to be a centre for research into atomic weapons.

Norwegian authorities have strict trade sanctions against exports to Pakistan. ■

Fair do

The All Formats Fair is expanding from its traditional London base at the Royal Horticultural Halls.

The dates and venues for the national tour are: Sunday 1 September, University of Leeds Sports Centre, Calverly Street. Saturday 7, Royal Horticultural Halls, Greycoat Street, Westminster. Saturday 14 September, National Motorcycle Museum, Solihull, Birmingham. Sunday 22 September, City Hall, Candleriggs, Glasgow. Sunday 6 October, The Brunel Centre, Bristol Old Station. Admission price is £4. For more details call 0926 613047 ■

GET REAL! • GET REAL! • GET REAL! • GET REAL! •

OZ VAMPIRES

Australian Telecom is under attack for not controlling the subject matter on its 0055 (0898 equivalent) numbers. This follows public outrage at a real story of three lesbian lovers who killed and drank the blood of a male victim, which was relayed over the phone lines. Facts, including real names, were included much to the distress of the unnamed victim's wife.

Dalek-man kidnaps millionaire's wife

Debt-ridden property developer John Warrington turned into a Dalek in order to carry out a £500,000 kidnap bid to solve his financial problems.

Warrington, 43, kidnapped Maggie Smith, wife of millionaire Roger Smith (deputy chairman of Luton Town FC) and, using a cheap electronic voice synthesiser, disguised his voice to sound like a Dalek when phoning in his ransom demands.

He bought the £23 Magic Mike box from Harrods and was able to foil Home Office voice analysis tests, which failed to reveal whether it was a man or a woman making the demands. Fearing identification by his victim, he kept her blindfolded and spoke to her through the device. Her ordeal ended when a passing milkman heard her cries and alerted the police.

Warrington was jailed last week for 15 years after admitting kidnapping, false imprisonment and blackmail. ■

• A £23 investment in some microelectronics could turn you into a Dalek. It could also land you in prison if you use it for the wrong reasons.

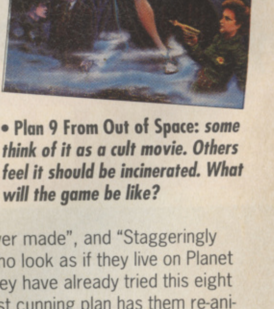
Zombie walking bytes

Plan 9 From Outer Space was such an awful movie that Bela Lugosi died in the middle of making it and had to be replaced by a stunt-ham. Now Pixel Productions is disinterring both Bela and the film in the form of a computer game.

It may be a sacrilegious act, but nevertheless Pixel is planning to release the game in April 1992 for the ST, Amiga and PC.

The movie, which has drawn such comments as "Mesmerisingly awful", "The worst horror film ever made", and "Staggeringly inept", centres on an alien race, made of beings who look as if they live on Planet Bankmanager, who wish to take over the Earth. They have already tried this eight times without success – hence the name. The latest cunning plan has them re-animating the earthly dead in order to produce an army of zombies to do the dirty invading deed (and to sit through the film!).

When released, the game will come with a video featuring lowlights of the turkey – sorry, movie. It will also have more than 50 digitised scenes included in the arcade adventure-style gameplay. ■


PLAN 9 FROM OUTER SPACE
"The Worst Movie Of All Time"

• Plan 9 From Out of Space: ***some think of it as a cult movie. Others feel it should be incinerated. What will the game be like?***

Star's secrets hacked • Vampire phones • Atomic Bom

You've seen the flight – now read the book

SUPERTECH
HOW AMERICA CAN WIN THE TECHNOLOGY RACE
THOMAS G. DONLAN

• Supertech, by Thomas G Donlan. Does this book take American techno paranoia to new levels?

Supertech is a new book that details the links between American economic and Information Strategies, and comes to some rather startling conclusions.

Written by the Washington editor of *Barron's National Business and Finance Weekly*, Thomas G Donlan, it has already been hailed as 'an indispensable guide to the way the world works in the '90s', '... valuable for everyone who watches TV... ', and 'knowledgeable and witty' among numerous other plaudits.

It sets great store by the perceived battle between Japan and the USA for world dominance in the world of computers.

However, it is not purely the Japanese who are to blame for any possible loss of American computer clout. Domestic funding bodies, such as Defense Advanced Research Projects Agency (DARPA) are also examined. *Super tech* costs £17.99, is published by Letts ISBN 1-55623-371-X and is out now. ■

SHOOT FROM THE LIP

"The sort of informed and intelligent person who attends the All Formats Fair would not be seen dead at Computer Entertainments Show (CES)."
Bruce Everiss, organiser of the very same All Formats Fair, talking about the September 7 AFF which clashes with CES. Quite possibly a case of 'he would say that wouldn't he?'

"Who's Sega? How do you spell it , Cega?"
A JVC marketing spokewoman talking about the company with which JVC are collaborating on a new CD-based console. Her company is actually providing, among other things, the drive for this new machine.

"Are we sure that, in the developing world, there are not computer games with white people being used?"
John Bickerstaff of the Independent Commodore Products User Group commenting on PD games, such as the notorious *Paki Bash*, in which racial minorities are used as the victims.

"The full-blown commercial software should be left to the big boys. Otherwise we'd all be at each other's throats". **Ray Burt-Frost of Amiganuts talking about pirated software used in BBSs. (See pages 6&7 for more as *Express* examines the possible threats to the free flow of Public Domain software.)**

Formula 1 fun

• Nigel Mansell and Ayrton Senna both sufferd from computer errors at the British Grand Prix. But Mansell went on to win!

Storming Nigel Mansell, who took the chequered flag in the British Grand Prix at Silverstone two weeks ago nearly had his chances wrecked by an in-car computer error.

His Williams-Renault suffered a glitch in its computer-controlled hi-tech gearbox, which meant that he had to drive for most of the final two laps in fifth gear.

Mansell, who has a history of being plagued by faulty cars, so much so that he threatened to quit last year, was not too distracted by the error. It was similar to a problem he suffered in this year's Canadian Grand Prix, when his computer-controlled semi-automatic gearbox stopped working on the final lap, relegating him from first to sixth place.

"Silverstone was just like Canada all over again," said a relieved Mansell, who is now only 18 points behind world champion Ayrton Senna in the race for this year's championship.

"As soon as I felt that the car was reacting the same, I kept the revs up by putting my foot flat to the floor."

Meanwhile arch-rival in the Formula One racing championship, Brazillian Senna, was also beset by a computer cock up which caused his car to grind to a halt during the slowing down lap. After losing his lead over Mansell early in the race, it transpired his in-car instruments had given an optimistic reading of how much fuel he had left. The car stopped, empty, but the magnanimous Mansell gave him a lift back to the pits. ■

COMPUTER CALAMITIES

Send your tales of magnificent computer malfunctions to Computer Calamities, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW and we'll pay a fiver for each one printed.

This week, Louis Trevton of Warminster reminds us all that resetting your computer's clock is not the easiest thing in the world. The cock-up sees boffins at Stanford University attempting to get their mainframe to tell the time by sampling the readings from several other universities. One of them happened to be in Maryland. It also happened to be 12 years out of date. ■

GET REAL! • GET REAL! • GET REAL! • GET REAL! •

FEELING TYPE FAST?

Computers were behind the first new typing test in 20 years. It was set by Barbara Blackburn in the US using a Dvorak rather than QWERTY keyboard, and stands at an incredible 170 words per minute – that's 10,200 words per hour. Blackburn's feat is now officially registered in the *Guinness Book of Records*.

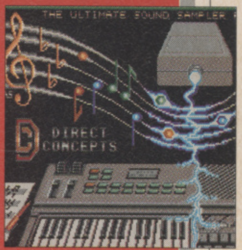
CONTENTS

27th July 1991 • Express 142

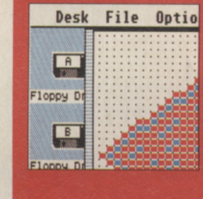
COVER FEATURE

Porn, violence, viruses, piracy
Express investigates the evil undercurrents pervading PD – pages 6 & 7

REVIEWS



Daatasound for the ST & STE
Pandaal's sampling and sequencing package is put to the *Express* test, but does it come up with the goods? – page 49



Comms dancing
At 9600 baud Multitech's Multi Modem V32 is a fast mover – page 53

DC desktop and NeoDesk 3
The ST's GEM makes way for a dynamic desktop duo – pages 55, 56

EVERY WEEK

News
Express makes sure it travels fast – pages 4-8

What's New
Memory cards, thumb operated pointables, flat screen colour monitors and more on page 11

Games Week
Hot tips, news, and the lastest charts, plus *Frenetic* – page 50

25 Trojan Light Phazers up for grabs
Really get geared up for playing games with £1,000 worth of light guns

SHOPPING EXPRESS

Letters 13
Amiga 16
ST 17
CPC 19
C64 20
Spectrum 22
PC 23
Mac 24
Whole Wired World 28
Circuit City 31
Tech Tips 32
Programming 40
On-line 42
PD Column 44
Event Horizon 46

NIBBLES

Novell driver

DPL has launched a device driver that links Ricoh RS9200 optical drives to PCs, ATs and machines running Novell 386 v3.1, letting users of the Novell network access mass optical storage.

The Ricoh RS9200E II optical drive can store up to 650Mb on a single removable optical cartridge. Other features include the auto-loading of cartridges, automatic error control, and the drive can automatically recognise the media surface of an inserted optical disc.

To find out more, contact Data Peripherals on 0785 223206.

CD-ROM release

Optech has released the latest version of the *The New Grolier Electronic Encyclopaedia* on CD-ROM. It has been upgraded to include recent events, including the Gulf War.

As well as having text added, the encyclopaedia has more maps and graphics, while sound capabilities have been incorporated for the first time.

The New Grolier Electronic Encyclopaedia is available for both the PC and Mac at a price of £245.

For more information call 0252 714340.

Tape backups

The Parallel Stream II is a tape streamer that connects to a PC's parallel or serial port to back up computer data.

Because it connects to these ports, laptop and notebook computers can also make tape backups – other backup devices usually require interface cards which these smaller machines can't use.

There is a choice of three capacities, ranging from a 60Mb tape streamer for £995, to a 250Mb model which costs £1195.

Call Jilutech for more info on 081-965 9494.

Air displays

Microprose will demonstrate its range of military simulation software, including *F15 Strike Eagle 2*, at the International Air Tattoo at RAF Fairford, Gloucestershire between the 20th and 21st of July.

The company will be selling its products at the show's official shops as well as in places where the software is being demonstrated.

To find out more, call Microprose on 0666 504326.

£40 million deal gives Japanese control of the Megadrive a

SEGA BUYS OUT M

Sega is buying out Virgin Mastertronic in a deal estimated to be worth £40 million.

This will mean that it now has direct control of its European distribution. And it is now poised for a £25 million advertising blitz on Europe – with £4 million earmarked for the UK alone.

Mastertronic chief executive Nick Alexander said: "Nintendo caught us last year, but we'll hold them where they are and slug it out toe-to-toe."

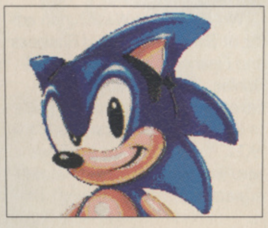
Sega president Hayao Nakayama says: "With Virgin's assistance we have become market leaders in Europe, but the battle for share intensifies year by year and to win in the long term we need to focus all the resources at our disposal."

• Nick Alexander – 'we'll slug it out toe to toe with Nintendo'.

Virgin Mastertronic presided over sales of the Sega Mega Drive and Master System, in excess of £100 million during the past year, way ahead of the its own estimates.

Virgin Games, the software publishing wing of the Branson computer off-shoot, is retained by Virgin Communications with unlimited publishing rights to produce Sega games.

With the European retail market for console and computer games hardware and software expected to grow to more than £1 billion by the end of this year, the Japanese company is keen for 'hands-on' control of supply.



• Sonic the Hedgehog ***moves fast to nab Virgin Mastertronic.***

And with projected sales by Virgin Mastertronic of £250 million for the next 12 months, Sega's hands should be full indeed.

Ashton Tate and Borland merge

In a move which has stunned many industry observers, Borland International has bought Ashton-Tate.

The final deal is expected to be completed by the end of the year, subject to US government, and shareholder approval. However, if the transaction is not completed, under certain, and as yet undisclosed circumstances, either company could have to pay $13.5 million to the other.

The takeover will mean Borland owns the two top selling PC databases: its own *Paradox* and Ashton-Tate's *dBase* series. It is not known how *dBase* will be supported under the new ownership.

As Borland's chief executive officer, Philippe Kahn said: "Borland and Ashton-Tate are an excellent strategic fit and will have an exceptional organisation... This transaction will allow us to provide a full range of software products – from databases and spreadsheets to graphics and programming languages".

The merger is certainly good news for Ashton-Tate which reported $5.6 million losses for the fourth fiscal quarter of 1990.

And for Borland the future is very rosy indeed, as it effectively makes Borland the second largest software company in the world, behind Microsoft. ■

Laserjet printing speeds up

SuperPrint 2.0 **is a print driver for the Windows graphic user interface (GUI) that speeds up the printing of text and graphics on Hewlett Packard Laserjet printers.**

The program creates the printer's fonts when a page is going to be printed, rather than let the printer do all the font processing itself. BIT (UK), the distributor, claims that output from all Windows applications can be produced up to five times faster than rival products.

Typefaces included with the program support output from Postscript-compatible files and Bitstream *Charter*, bringing the number of available faces to 36. Drivers included with the program also increase the speed of graphical output and enable Windows applications to create TIFF, Targa and BMP bitmap files in colour or black and white.

BIT (UK) is on 0420 83811. ■

Optical wonders

The Software Toolworks has released a number of new CD-ROM based products for the PC and Mac.

These include: *Mammals*, an encyclopaedia of animals which features live action sequences in the form of 45 full-motion movie clips; *US History*, which charts American history using over 1,000 photographs, maps and tables of information; *Time Table of History*, a chronicle of important scientific and innovative events; and a number of CD Games packs including the highly rated *Chessmaster 2000*, and the medically explicit *Life&Death*.

There are also a variety of encyclopaedias and reference products such as a *Bible Reference* and *World Atlas*.

Prices for the CDs range from £71.50 for the *Bible Reference*, to £468.82 for the *World Atlas*. *Screenworks* will set you back £35.23.

To find out more, call The Software Toolworks on 0444 831761. ■

Type, set and match

The latest version of *AmigaTEX*, an American typesetting program for the Amiga series, is now available in the UK. And it is being launched at a cheaper price than if it were imported directly from the US.

AmigaTEX 3.1 has a number of new features not found in earlier versions of the program. It can now fully display and print Postscript (PS) fonts and graphics on screen or to any printer. PS fonts can be scaled, slanted and stretched, and imported from a wide range of programs.

The program uses the Amiga's multi-tasking abilities, so it could preview one page while printing another, for example. This facility can be controlled by the Arexx control language. It is also compatible with AmigaDOS 2.0, the new Amiga operating system, as well as with the Tex 3.1 and Metafont 2.7 typesetting standards.

Industrial Might and Logic has been appointed as the UK and Eire distributors of *AmigaTEX*, and is selling it for £140. For more information call 0273 621393. ■

Amiga saves dealers' bacon

Commodore is claiming that its most successful non-Christmas quarter has saved some computer dealers from extinction.

According to UK sales manager, Kelly Sumner, during the period from 1 March to 30 June 46,909 Amigas were sold. His summation of the situation is: "If it wasn't for this product, some dealers might not have survived that quarter". ■

• The Amiga: is it really responsible for saving the bacon of several computer dealers throughout the UK? You decide.

ve and Master System European distribution

ASTERTRONIC

The Japanese are coming - or are they?

In the light of the £40 million deal, *Express* asked other UK software houses for their opinion on a possible Japanese takeover.

Sega Master System software developer Domark sees a fall in software prices as one possible effect of the deal.

Domark's joint founder Dominic Wheatley said: "There is great protectionism among European countries, but the truth is that all the Japanese bring is enthusiasm and ideas, as has been seen in the car industry, so there's no cause for paranoia.

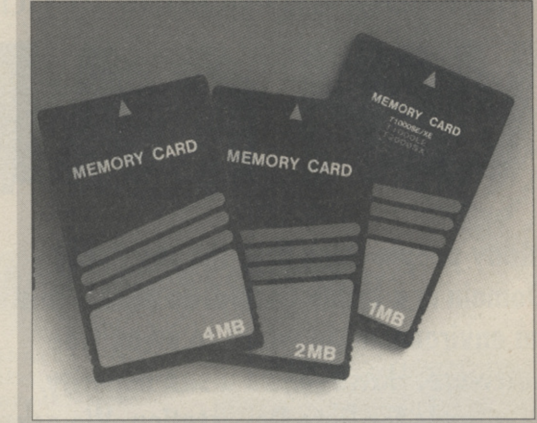
"The main issue is perhaps that Sega understands where it is going and what its abilities are and is now putting its money where its mouth is. Sega can fund the operation more than Virgin would have been willing to.

"In so far as the operation being more efficient, with fewer people in the distribution loop, prices might come down."

Electronic Arts, another energetic Sega developer, has welcomed the deal.

Public relations manager Simon Jeffrey said: "The fact that Sega is investing in Europe is a good sign and its expertise in the market will be good for Europe. I don't really think that it is throwing its money about.

"We'll just be dealing with Sega Europe instead of Virgin Mastertronic, so it won't affect development for us. I wish them luck and that the people they've already got stay on – they've done a good job." ■



Relief for amnesiacs

Users of the Toshiba T2000SX and compatible portables now have access to a range of new memory cards.

The cards come in 1, 2, 4, and 8Mb sizes provide extra data storage. Prices for the cards are: £195, £295, £595 and £1,295 respectively. For more information call 0734 892222. ■

Sega and Nintendo do agree on something after all. Neither of them like the idea of pirates making off with star games such as Sonic the Hedgehog, and Super Mario. So they've made some FAST moves.

Console giants join FAST

Software pirates beware as game console giants Nintendo and Sega join anti-piracy watchdog the Federation Against Software Theft (FAST)

Hot on the heels of the first ever prison sentence for a pirate, as reported in last week's Express, this latest turn of events has delighted FAST chief executive Bob Hay who says concerns over illegal video game rental and counterfeit games cartridges led to the move.

'It's a significant move as far as the leisure sector is concerned. Funding is always a problem so the additional funding we will gain from this will help us to do much more.'

The addition of Sega and Nintendo to the watchdog brings the total number of firms in FAST to more than 140. ■

PC audit software available for free

The Federation Against Software Theft (FAST) is giving away a free PC audit program.

SPAudit enables companies to keep an inventory of the commercial software they use and compare it with the software that they have purchased.

It can check computers for over 650 major business software packages, and can then print out a report detailing the findings of the search. The program can search the hard disks on standalone PCs as well as across multiple servers on local area networks.

Once software is identified, *SPAudit's* report can be compared with company records, original disks, documentation, licence agreements and other proofs of purchase to ascertain whether or not it is actually authorised. If software is unauthorised then, in line with UK copyright law, it should be destroyed and replaced with a legal version.

SPAudit is available free by calling Freephone 0800 181502. FAST itself can be reached on 0628 660377. ■

Secure at last

A new consortium has been formed called the Integrated Secure Information Systems (ISIS) to make more companies aware of the importance of computer security.

ISIS consists of computer hardware, software and servicing companies who intend to work together to develop secure and cost effective products for users in Europe and Scandinavia. The founding members of the consortium include GriD, the pen-input systems manufacturer, and Hicom, which specialises in developing software to analyse and assess threats to security.

To find out more about ISIS, telephone the consortium on 081-897 6565. ■

Dream of Genie comes true

Nintendo has lost its courtroom battle to get the Game Genie games cracking device banned from sale in the USA.

The loss, which was the first of its kind for the Japanese games giant, has been hailed as: "A moral victory..." by the US distributors of the Genie, Lewis Galoob Toys. Galoob's executive vice-president Steven M Klein said: "This is a great victory for us and the video game industry".

After 18 months of litigation, San Francisco Judge, Fern Smith, found that: "The consumer's use of the Game Genie ...for the user's own enjoyment does not create a derivative product". This effectively means the UK produced device does not infringe Nintendo copyright.

The Game Genie, developed by UK budget software house Codemasters and licenced to Galoob, enables users to alter the play of Nintendo Entertainment System (NES) games to give users infinite lives and fuel in games like *Princess Zelda*, and *Super Mario Brothers*.

"Nintendo waged needless litigation," said Klein. "We refused to be intimidated by the anti-competitive actions of a litigious, multi-billion dollar corporation."

Codemasters co-founder David Darling told *Express*: "We are very pleased that, at long last, Game Genie is going to go on sale in the United States. It's a shame Nintendo kept it off the market for so long."

However the story may not be over, as Nintendo anticipates that it will appeal Judge Smith's decision once its lawyers have studied the court's verdict. ■

For the first time in its history, Nintendo has lost a case which it desperately wanted to win. Is it a moral victory for the consumer? Is it the end of Nintendo supremacy? Or is it merely a protracted legal flash-in-the-pan?

On-line price cuts

It now costs less for users of the Compuserve on-line information service to send faxes from their computers.

Prices have been reduced by up to 35 per cent. For example, for the first 1,000 characters of a fax sent from the UK to a North American destination the price has dropped to 40p from the previous 54p rate. Similar discounts have been made to the cost of sending a fax to European destinations, and even as far afield as Australia.

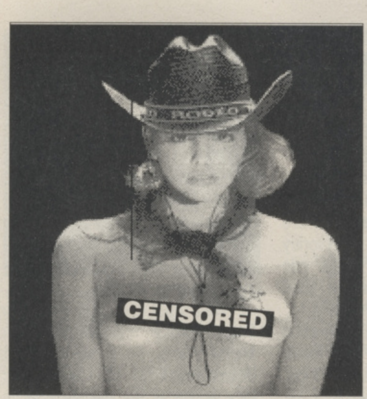
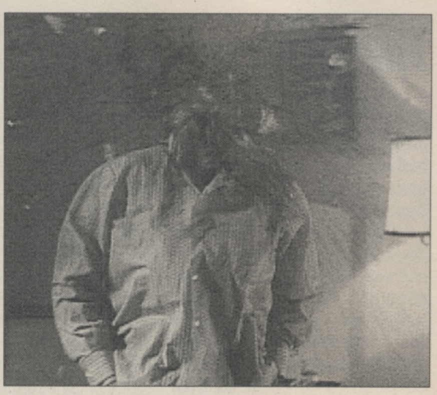
Faxes can be send via Compuserve's mail service which also enables users to access competing mail services such as MCI Mail, AT&T Mail and Telex.

To get further details, contact Compuserve on 0272 255111. ■

The Public Domain is in danger from a few warped people at home

WHY ARE THEY TRYI

Many people think that the the Public Domain is a techie ghetto. To others it is an environment in which to swap free software. However, to a sick minority, PD stands for Pure Devastation. We ask the people in control what can be done about the current state of the market...

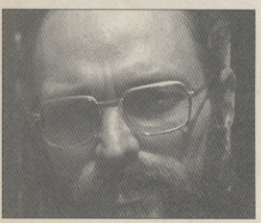


• These are just two of the images which Express was able to download from domestic BBSs. They are also tame examples of their respective genres - we felt it to be in bad taste to print some of the others which were equally open to access. Just what purpose they serve in the Public Domain is a question which no one seems to answer without referring to the seemingly cynical: "It gets the punters in". Would you download them?

Pornographic, racist and obscene software; piracy, viruses, overpriced disks and uncaring service are all threatening the cosy image of the Public Domain and bulletin boards.

The police are currently clamping down on BBSs (Bulletin Board Systems) which supply pirated and pornographic software. The Voyager Bulletin Board was recently closed down because it had been persistently dealing in pirated software.

• Bob Hay of FAST: pirated software distributed through PD libraries and bulletin boards, "is not a problem at this moment."



• Paul Glover of the ST User Group : Bombmaking software is "the sort of thing we would put to one side."

And with each piece of bad press, the general perception of the Public Domain and BBSs deteriorates that bit more.

PORNOGRAPHY

One of the worst problems to dog these services since they first became popular in the mid 80's has been pornographic software. Many bulletin boards and PD libraries have 'adult' sections because, as Gary Nash of Paradise BBS says, "basically it gets the users."

Other sysops and PD librarians are not so open minded about such matters. They are worried that this sort of material is available to all users, including young children. "Basically, I think it's bad news for bulletin boards as a whole," reckons Dave Gorski of Aspects BBS.

Paul Glover of the ST Club agrees: "Supplying pornographic material is breaking the law, regardless of your views on censorship in general."

However, some BBSs and libraries argue that their adult sections operate on the same level as 'Page 3' titillation, and that they carefully control who they supply the software to.

James Wright of the Independent PC Users Group claims: "We do supply adult software, but only to over 18s and there's no penetration or stuff like that."

Yet at the more extreme end of the scale some libraries will supply that sort of "stuff" along with other obscene material which would sicken most people, including paedophilia, bestiality and masochism.

> **Supplying pornographic material is breaking the law regardless of your views on censorship**
>
> *Paul Glover of the ST Club*

The police only have jurisdiction over material originating in this country. They can do nothing to stop people logging on to boards in the United States, for example, and downloading pornographic software. There are even BBSs in the US which transmit hard core pornographic software via satellite (as reported in *Express* 138).

All that the Home Office can do if it discovers such boards is inform the authorities in the countries from which the material originates. "Their actual offence is outside our boundaries," said Home Office spokesman Graham Goodwin.

Another stratum of easily available Public Domain software gives you step by step guides to making bombs, picking locks, shoplifting and other illegal activities. There is also a genre of extremely sick racist software, epitomised by *Paki Bash.* This 'game', which appeared in early 1989, was based on Mastertronic's *Sidewinder*, but Scottish pirates mutated it so that the aim was to go around-killing members of the ethnic communities.

At the moment it is up to the Home Office and the police to decide how to proceed with each individual case, but Scotland Yard's Computer Crime Squad, headed by Inspector Austin, is currently looking into regulating the kind of software which should be legally allowed to be released into the Public Domain and transmitted on bulletin boards.

COPYING SOFTWARE

Piracy is another major problem. *Express* has received catalogues which list thousands of copied programs which PD libraries claim they can supply.

However, FAST (Federation Against Software Theft) is dismissive about the situation:

"We did have a problem with one bulletin board, but that has been cleared up. Hopefully that means bulletin boards are keeping their game clean. It's not a problem at the moment and we can't spend all our time perusing boards," said FAST's chief coordinator, Bob Hay.

The people running software libraries disagree:

"It's a growing problem'" said James Wright of the Independent PC Users Group. "It seems that youngsters nowadays think 'oh, let's just copy a game'."

SELFISH USERS

Dave Gorski explains that this attitude can cause problems for bulletin boards because people will upload a commercial game under a different name to balance their file ratio – a system designed to keep new software flowing into a board so that users have to upload a program

PD OR BBSs: WHICH PROVIDES THE BETTER SERVICE?

Many of the more established PD librarians and sysops feel that their image is being tarnished by some operators who, either through lack of scruples or ineptitude, fail to provide a service which is up to the standards users could reasonably expect.

"Some PD libraries do use unlabelled rubbishy disks," reckons AmigaNuts' Ray Burt-Frost.

He also feels that many libraries fail to put enough software on each disk and is annoyed with PD disks that just contain one solitary program:

"As much as possible should be crammed on to a disk to make things fair.

"For Amiga software, I would recommend the established libraries which have been running for a few years like ours, MBS, Softville and 17-Bit. Frankly, the others I wouldn't touch with a bargepole."

However, Burt-Frost is even more dissatisfied with the service offered by BBSs:

"I don't like bulletin boards. Too many people abuse them. In the United States they are run well, but over here they are used more like dirty phone lines."

James Wright of the Independent PC Users Group feels that another worrying problem with BBSs is piracy:

"As the Public Domain is very open it is very easy to get caught, so most PD libraries are good and try not to distribute pirated stuff.

"With some BBSs all they do is provide commercial software."

Aspect BBS's Dave Gorski grudgingly agrees:

"BBSs do not have a good public image at the moment, not with the way adult sections are being used."

However, he points out that some PD libraries are taking advantage of their customers in other ways:

"Some are charging far too much for their software. I"ve seen astronomical prices, up to £5 a disk at times."

All of the people Express spoke to agree with James Wright's summation, though: "It's a very small minority who are ruining it for the rest, but it's a problem that's always going to be there."

COVER FEATURE

and abroad. *Express* asks what can be done...

NG TO RUIN PD?

HIDDEN FILES REVEAL BOMB MAKING SECRETS

Public Domain software detailing how to make bombs and a device for electrocuting your enemies has filtered into PD libraries and bulletin boards in the UK.

The software, which is credited to an American-based group calling itself Lunatics Labs Unlimited (the number of which is now unobtainable), also includes a file describing how to pick locks, which begins: "So you want to be a criminal?"

Though jokey in style, the information provided in the files is deadly serious. Police scientists in this country have confirmed that the intructions given for mixing chemicals would create some very powerful explosives.

The files warn that anyone without a knowledge of chemistry should not attempt the 'experiments', but the instructions are very clear and simple to follow, so anyone with the right materials could attempt to make the bombs.

However, the police warn that dabblers are more likely to end up blowing themselves to pieces.

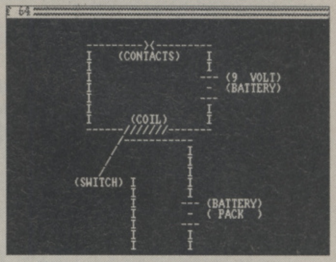
UK HIDDEN FILES

Similar bomb making software has been available in the UK before, but this time it is being distributed more insidiously. The information is actually hidden away in the doument files of some Amiga utilities software.

The files were brought to the attention of the police by Kevin Larkin of the X-Press PD club in Kent. He discovered them when collecting software for his own library:

"Initially I was a bit puzzled. I thought it was a joke, but I called the police. They sent around two special branch officers who later told me that the information was the genuine article. Whever did this thing is sick."

Larkin is also critical of other PD libraries which don't check their software thoroughly: "There are a lot of PD libraries which I am sure don't look into their document files. I reckon they should." The PD library from which Larkin obtained the software has since withdrawn it from its catalogue.



• Hidden away amongst document files of an innocent looking Amiga utilities PD disk is information on how to make bombs and an electrocution device (above).

after they have downloaded a certain number of files. He said:

"Generally the system works, but I've actually seen someone upload *Flight Sim 4* under another name. I can't always check every file, so I have to rely on users to inform me "

However, Kevin Larkin of X-press is critical of sysops and PD librarians who don't check all their files: "On the stuff I receive I check everything. I reckon all sysops should."

> **Once boards and libraries see the police clamping down they should clear things like adult sections off**
>
> ***Dave Gorski, sysop of Aspects BBS***

FAST is of the same opinion: "Sysops should be vetting everything on their boards and if they are in any doubt about a game they shouldn't use it. Sysops should not bury their heads in the sand," says Bob Hay.

Paul Glover of the ST Club points out another problem with pirated software: "Some people seem to be of the attitude that because you can no longer buy a game, it should be available for free."

VIRUSES IN THE SYSTEM

Viruses are a further problem faced by the bulletin boards boards and PD libraries, though they are not as rife now as they have been in the past.

PD libraries especially had a bad reputation for spreading viruses and now many of them use virus checkers and give warnings to users to use virus checkers themselves.

But the attitude of the libraries to the sort of people who write viruses is unanimous and summed up by Paul Glover of the ST Club: "They're just wasting their energies really."

But now that the virus problem seems to be under control, a new craze has hit bulletin boards: mail bombs. These are programs the users can upload which can cause a whole board to crash, though *Express* refuses to give details of how this can be done to save bulletin boards from any further tragedies.

NO REGULATIONS

Few of the Public Domain libraries would like to see a regulatory body, however.

"If you've got something to give away free of charge, you don't want to get hassled," explains James wright of The Independent PC Users Group.

Gorski agrees: "I think the police are doing a good job. Once boards and libraries see the police clamping down, they should clear things like adult sections off."

In general, though, these problems are still only small blots on services which are provided for enthusiasts by enthusiasts and still have a lot of positive things to offer. ■

Don't miss the PD Column's review of the latest software on page 44 and the most comprehensive listing of PD libraries in any UK magazine in Express On-line *on page 42.*

GLOSSARY: OR, JUST WHAT IS A SYSOP ANYWAY?

● BBS
Bulletin Board System, accessed by computer through a modem via telephone lines.

Aside from being a means for users to communicate with each other through the use of mail areas where messages can be left for others to read, they can also be used for downloading software or accessing databases.

● PUBLIC DOMAIN SOFTWARE
Software which can be copied for free or for a small fee. It includes everything from games to utilities and some is of a very high standard. Much of this software can be obtained from PD libraries which usually charge a nominal fee for copying and disks costs.

● SHAREWARE
Software which is available for a discretionary fee which goes to the author to encourage them to write further programs. It is a system relies very much on trust.

● SYSOP
The person who runs and regulates a bulletin board

● DOWNLOADING
Transferring data from one source, usually a larger machine or data-store such as a bulletin board, to a smaller machine, such as your own personal computer. The opposite operation is called Uploading.

● FAST
The Federation Against Software Theft is a software industry watchdog funded by the major software houses.

EXPRESS COMMENT

Why is it that, when a useful facility is provided free of charge – or at least for a mininal rate – there is always a group of fools who seem to get a kick from destroying all the good will that has been built up?

The majority of PD libraries and bulletin boards are beyond reproach in terms of both service and facilities provided. Most users of these organisations also have good intentions. So where does the porn, the violence, the viruses and the general misuse come from?

The PD libraries blame the BBSs, the BBSs blame the libraries and everyone blames human nature.

THE VANDALS ARE COMING

If it was a straightforward case of human nature then everyone would be doing it. By definition, human nature applies to all. So let's kick that answer out as weak, not thought out and avoiding the problem.

Arguments are put forward by software pirates as to why they crack games, or by hackers as to why they break into large systems, or by virus vandals who send logic bombs in to devastate systems normally follow the lines of: "These people make too much money/ can afford to lose the data/ are too big and don't care for the little people/ can afford better security... " None of which apply to the average PD library of BBS. The people who undertake such acts of wanton digitial violence do it for kicks and nothing else. And, in doing so, they are in imminent danger of destroying the dream of Public Domain for the rest of us.

The porn and violence questions are slightly different from piracy and viruses. Some people, it seems, actually get a thrill out of these badly digitised pictures images – that's their bag, and it is not up to us to comment on other people's proclivities. It is up to us and the computing community at large, to wonder why such images are available for young children to download. Why is there no regulatory body to keep an eye on the goings on?

DO SOMETHING BEFORE IT'S TOO LATE!

FAST (the Federation Against Software Theft) can do very little about the state of PD. It is funded by the software industry in order to look after its interests. The police and the Home Office either can't or won't do anything about the possible illegal shennanigans which occur.

It is about time that the constituent members of Public Domain came together as a body and did something about the problem. After all, the more the insidious evil creeps into the system, the fewer people are going to want to make use of it. Before too long we could be looking at a ghetto of free filth which is used purely by the perverse.

So, come on PD libraries and sysops, do yourselves and everyone else a favour. Get together, either in the letters pages of *Express* , or more productively, in a physical meeting, and work something out before it is too late. The dream of PD must continue.

• If you have any views on this subject, write to Express Mail now!
30 Monmouth Street, Bath, Avon BA1 2BW.

TOMORROW'S CUTTING EDGE

Technology is changing all the time. Find out how it might affect you. Right here, right now

Map out a new future

As the world moves ever closer towards a paperless society, even the humble road map is threatened with extinction.

A computerised map system is now being tested in the US, which would display directions on a monitor screen in a vehicle whilst on the road.

All the driver has to do is type in a destination, then an arrow is displayed on the screen pointing in the direction to travel. If a corner has to be negotiated, the arrow points in the direction from which the corner will be approached and a digitised voice counts down to when the vehicle will reach it.

The $40 million 'smart car' project is being jointly funded by the US Department of Transportation, the State of Illinois and Motorola, which is also developing the technology for the system.

The project testing is expected to last five years, with more than 5,000 vehicles being equipped with a computer, radio transmitter, CD-ROM player and dashboard display.

One possible hiccup is that a number of American states have laws against the installation of television screens in motor vehicles and they could consider the use of the computerised map illegal. ■

Picture this – images saved direct to disk

Sony has developed a new, and as yet unnamed, technique for transferring colour images directly to 3.5-inch disks, and you don't even need to use a scanner.

Instead of using conventional methods of image capturing such as flatbed or hand scanning which both have to digitise the required picture before transferring the data to disk, the system uses a Mavica camera which stores photographs directly on to floppy disk. Thus the 'middle men' have been removed from the process – no film is needed and the possibility of data loss (which leads to fuzzy, badly rendered final images) is removed.

Once a picture has been taken it is not stored on film, but instead goes on to a conventional 3.5-inch PC or Mac-compatible disk. The image can then be imported straight from the disk into a page make-up, paint, or DTP program.

Because the images are not kept in photographic form, they can also be sent via telecommunications systems. This method uses a Sony DIH-2000P still image transmission system which can send the image to a suitably equipped PC, Apple Macintosh or Sony workstation on the other end of the line.

• Conventional methods of getting images into desktop publishing programs could be overturned if Sony's new, non-scanning system is fully instigated.

At present, while the system produces images of reasonable quality, they are not as good as those used in top quality publications. This, like many things, is expected to improve with time. ■

Check out your caller

Thanks to new technology, many of us could be using video telephones in our homes within two years.

British Telecom (BT) has produced experimental phones in its laboratories that cost up to £2,000 each, but believes this cost will fall to an affordable price with mass production.

This development has been helped by an agreement signed by BT and five European telecommunications groups to develop common technical standards for high-resolution video telephones. While this agreement aims to aid the progression of video telephones into businesses, BT is also developing a simpler version for domestic subscribers.

Video telephones will enable the user to see the person they are talking to and to record both the conversation and the picture in much the same way as an answer machine.

BT is uncertain as to just how many people will be interested in using the new technology in their homes and believes this will depend on the quality of the phones' picture.

Picture quality is linked to how good the line quality is – for a near perfect picture exchanges must be converted to digital switching which uses a fibre optic cabled network.

At present only half of BT's 15,000 exchanges have been converted to digital switching and it may take until the end of the decade for all exchanges to be converted. ■

RAM on the run

A standard for integrated circuit (IC) memory storage cards has finally been devised by the Personal Computer Memory Card International Association (PCMCIA).

The PCMCIA includes such influential computer notables as IBM, Intel, Fujitsu and NEC – all important players in the portable field – so at least this bodes well for industry acceptance of the proposed standard.

Because of their small size, memory cards are taking over from floppy drives in portable computers. But the lack of a worldwide standard has lead to companies producing systems incompatible with each other.

New cards which adopt the standard will be usable with both portable and desktop machines. Portables will be able to read the cards internally, whereas desktop machines will need an add-on to be able to read them, at least until the standard is established.

Because the cards are memory chips, software can be stored and run directly from the card. In effect, this means applications can be run immediately and don't have to access a disk drive, for example, to load other parts of the program. This works in much the same way as cartridges do on games consoles. ■

• Portable computers such as the DIP Pocket PC could soon be equipped with a standard form of memory card storage instead of the many incompatible forms there are now.

A phone for all reasons

Licences have been awarded for a new generation of mobile phones which could result in people using the same phone at home, at work and in the car.

The phones allow the transmission of data as well as voice signals which means the office on the move could at last become a reality as computers and faxes can also use the lines.

At first the small phones that will do the job are expected to cost more than £200, not including subscription charges. However, Personal Communications Networks (PCN) an operator independent from BT and Mercury, is developing new tariff and billing systems which will cut costs in the long term. And if the system succeeds in reaching its target of 15 million users by the year 2,000, as is intended, the price of phones could fall to £50. The phones are expected to go on sale next year. ■

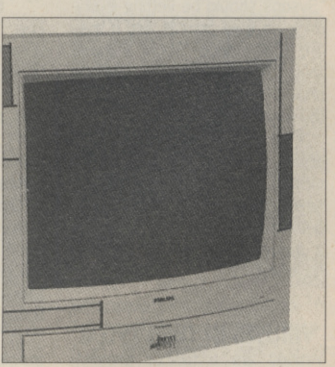
PAL gets the push

New proposals for how European satellite television should progress towards High Definition Television (HDTV) do not include the PAL (Phase Alternation Line) television standard.

While no definite date has been set for the death of PAL, the new developments certainly point towards the death of PAL.

The proposals, as put forward in a draft directive at a recent meeting of European telecommunications ministers, are intended to provide a path towards HDTV through the D^2 mac standard. This standard will be compulsory for new television channels from the beginning of 1992, and from 1993 all TV sets and satellite receivers of more than 22 inches in screen size will have to be capable of receiving it too.

As a result, this means that PAL receivers will be able to receive existing channels for at least the next five years, but after that PAL in Europe could be consigned to the crematorium of electronics history. ■



• Forget the old European PAL TV and monitor standard - it's rapidly heading into old news. A new EC draft directive could well be the final death blow.

CITIZEN PRINTERS

Silica presents some great offers on the award winning range of high quality dot matrix printers from Citizen. Each Citizen printer is built in the UK to exacting standards, ensuring superb reliability and a very high quality of output. Our confidence in the quality of Citizen printers is such that we are pleased to offer a unique two year guarantee with every printer. Plus, if you purchase your Citizen printer from us, we will give you a Silica Printer Starter Kit (worth £29.95), *FREE OF CHARGE!*

FREE DELIVERY
Next Day - Anywhere in the UK mainland

FREE STARTER KIT
Worth £29.95 - With every Citizen printer from Silica.

FREE COLOUR KIT
Worth £39.95 - With Swift 9 and Swift 24 printers.

2 YEAR WARRANTY
Silica offer a 2 year warranty (including the printer head) with every Citizen printer purchased from Silica.

WINDOWS 3.0
Free Windows 3.0 driver - In the Silica Starter Kit.

FREE HELPLINE
Technical support helpline open during office hours.

MADE IN THE UK
Citizen printers are manufactured to high standards.

144 CPS DRAFT 9 PIN

CITIZEN 120D+

The Citizen 120D+ is one of the UK's best selling printers. It has a stylish appearance and excellent features and performance for such an inexpensive printer. The 120D+ is available with either a serial or parallel interface and is an ideal first printer.

- *9-pin Printhead*
- *Print Speed 144cps Draft*
- *30cps NLQ*
- *Epson & IBM Graphics Emulation*
- *Pull Tractor & Bottom Feed*
- *Superior Graphics - 240×216dpi*
- *FREE Starter Kit*

RRP £233.83
STARTER KIT £29.95
TOTAL RRP: £263.78
SAVING: £112.20
SILICA PRICE: £151.58

£129
+VAT = £151.58

144 CPS DRAFT 24 PIN

CITIZEN 124D

The award winning Citizen 124D brings high quality 24-pin dot matrix printing within every computer users reach. It is the ideal choice where high quality printing is required at a budget price.

- *24-pin Impact Printer*
- *Print Speed 144cps Draft*
- *2 LQ Fonts (48cps)*
- *8K Buffer*
- *Epson, IBM & NEC P6+ Emulation*
- *Advanced Paper Parking*
- *Superior Graphics - 360×360dpi*
- *FREE Starter Kit*

RRP £292.58
STARTER KIT £29.95
TOTAL RRP: £322.53
SAVING: £112.20
SILICA PRICE: £210.33

£179
+VAT = £210.33

192 CPS DRAFT 9 PIN

SWIFT 9 - COLOUR!

The Citizen Swift 9 is perfect for those who require high quality dot matrix black or colour printing at a budget price. The print quality of Swift 9 rivals that of other manufacturer's 24-pin models.

- *9-pin Impact Printer*
- *Print Speed 192cps Draft*
- *3 NLQ Fonts (48cps)*
- *8K Buffer*
- *Epson & IBM Graphics Emulation*
- *Advanced Paper Parking*
- *FREE Starter Kit*
- *FREE Colour Kit*

FREE! COLOUR KIT

RRP £280.83
STARTER KIT £29.95
COLOUR KIT £44.65
TOTAL RRP: £355.43
SAVING: £133.35
SILICA PRICE: £222.08

£189
+VAT = £222.08

192 CPS DRAFT 24 PIN

SWIFT 24 - COLOUR!

The Citizen Swift 24 is one of Europe's best selling printers and has won awards including Printer Of The Year 1990. Its rapid print speed, quality and black or colour options, make it a natural choice.

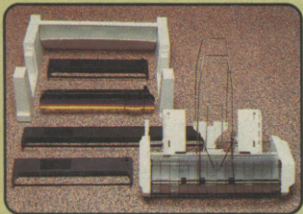
- *24-pin Impact Printer*
- *Print Speed 192cps Draft*
- *4 NLQ Fonts (64cps)*
- *8K Buffer*
- *Epson, IBM & NEC P6+ Emulation*
- *Advanced Paper Parking*
- *FREE Starter Kit*
- *FREE Colour Kit*

FREE! COLOUR KIT

RRP £428.88
STARTER KIT £29.95
COLOUR KIT £44.65
TOTAL RRP: £503.48
SAVING: £199.15
SILICA PRICE: £304.33

£259
+VAT=£304.33

PRINTER ACCESSORIES



SHEET FEEDERS		
PRA 1200	**120D**	**£71.38**
PRA 1215	**124D/Swift 9/24**	**£88.70**
PRA 1228	**124D/Swift 9/24**	**£42.00**
SERIAL INTERFACES		
PRA 1189	**120D+**	**£56.45**
PRA 1209	**Swift 9/124D**	**£32.25**
PRA 1709	**Swift 24**	**£26.38**
PRINTER STAND		
PRA 1242	**124D/Swift 9/24**	**£24.03**
ORIGINAL RIBBONS		
RIB 3520	**120D/Swift 9 Black**	**£4.11**
RIB 3924	**124D/Swift 24 Black**	**£4.70**
RIB 3936	**Swift 9/24 Colour**	**£15.63**
COLOUR KITS		
PRA 1236	**Swift 9/24**	**£39.65**

All prices include VAT and Free delivery.

FREE! STARTER KIT

Every Citizen printer from Silica, comes complete with the Silica Printer Starter Kit, including everything you need to get up and running with your new printer immediately, FREE OF CHARGE!

- ***3½" Dual Format Disk with Amiga & ST Printer Drivers***
- ***3½" Disk with Drivers for Microsoft Windows 3***
- ***2 Metre Parallel Printer Cable***
- ***200 Sheets of High Quality Continuous Paper***
- ***200 Continuous Address Labels on Tractor Feed***
- ***5 Continuous Envelopes on Tractor Feed***

If you already own a printer, and would like a Silica Printer Starter Kit, you may order one (ref: KIT 5000) for the special Silica price of £24.95 - £5 off RRP!

NORMAL RRP
£29.95

200 PRINTER PACK

SILICA SYSTEMS OFFERS YOU

- ***FREE OVERNIGHT COURIER DELIVERY:*** On all hardware orders shipped in the UK.
- ***TECHNICAL SUPPORT HELPLINE:*** Team of PC technical experts at your service.
- ***PRICE MATCH:*** We normally match competitors on a "Same product - Same price" basis.
- ***ESTABLISHED 12 YEARS:*** Proven track record in professional computer sales.
- ***£13M TURNOVER (with 60 staff):*** Solid and reliable with maintained growth.
- ***BUSINESS/EDUCATION/GOVERNMENT:*** Volume discounts available for large orders.
- ***SHOWROOMS:*** Demonstration and training facilities at our London & Sidcup branches.
- ***THE FULL STOCK RANGE:*** All of your PC requirements from one supplier.
- ***FREE CATALOGUES:*** Will be mailed to you with offers and software/peripheral details.
- ***PAYMENT:*** By cash, cheque and all major credit cards.

Before you decide when to buy your new printer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or some technical help and advice. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is one of the UKs leading independent computer dealers and provides a quality service to users at home, in education and in business throughout the nation. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature on the Citizen printer range and begin to experience the "Silica Systems Service".

SILICA SYSTEMS

MAIL ORDER:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX		**Tel: 081-309 1111**
Order Lines Open:	Mon-Sat 9.00am-6.00pm	No Late Night Opening	Fax No: 081-308 0608
LONDON SHOP:	52 Tottenham Court Road, London, W1P 0BA		**Tel: 071-580 4000**
Opening Hours:	Mon-Sat 9.30am-6.00pm	No Late Night Opening	Fax No: 071-323 4737
LONDON SHOP:	Selfridges (1st Floor), Oxford Street, London, W1A 1AB		**Tel: 071-629 1234**
Opening Hours:	Mon-Sat 9.30am-6.00pm	Late Night: Thursday until 8pm	Extension: 3914
SIDCUP SHOP:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX		**Tel: 081-302 8811**
Opening Hours:	Mon-Sat 9.00am-5.30pm	Late Night: Friday until 7pm	Fax No: 081-309 0017

To: Silica Systems, Dept NCE 0791 - 55, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND CITIZEN PRINTER INFORMATION

Mr/Mrs/Ms: .... Initials: .... Surname: ....

Address: ....

....

.... Postcode: ....

Tel (Home): .... Tel (Work): ....

Company Name (if applicable): ....

Which computer(s), if any, do you own? ....

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

PC Computermate

TOP PC GAMES

3D CONSTRUCTION KIT	£39.99
4D TENNIS	£22.99
4D BOXING	£22.99
4D SPORTS DRIVING	£22.99
688 ATTACK SUB	£25.99
A10 TANK KILLER	£29.99
AIRLINE TRANSPORT PILOT	£34.99
ANCIENT ART OF WAR IN SKY	£26.99
ANCIENT ART OF WAR	£26.99
ANCIENT ART OF WAR AT SEA	£26.99
ARTHUR	£22.99
BALANCE OF POWER 1990	£19.99
BACK TO THE FUTURE 2	£22.99
BARDS TALE	£19.99
BATTLECHESS	£22.99
BATTLECHESS 2	£25.99
BATTLE OF BRITAIN	£24.99
BALANCE OF THE PLANET	£29.99
BATMAN	£15.99
BATTLE COMMAND	£22.99
BLUE ANGELS	£19.99
BETRAYAL	£19.99
BILLY THE KID	£26.99
BUDOKHAN	£19.99
BRIDGE PLAYER 2150	£24.99
BLUE MAX	£26.99
CAPTIVE	£26.99
CARRIER COMMAND	£26.99
CASTLES	£20.99
CASTLE MASTER	£22.99
CHESS PLAYER 2150	£22.99
CODENAME ICEMAN	£34.99
COLONEL'S BEQUEST	£34.99
COLOSSUS CHESS 2	£20.99
CONQUEST OF CAMELOT	£29.99
CORPORATION	£22.99
CHESSMASTER 2100	£22.99
CUBEWORD 3D CROSSWORD	£20.99
DAS BOOT	£20.99
DELUXE SCRABBLE	£19.99
DOUBLE DRAGON 2	£20.99
DRAGONS LAIR 2	£34.99
DRAGONS BREATH	£22.99
DIPLOMACY	£19.99
DUNGEON MASTER	£32.99
EPIC	£22.99
ELITE PLUS	£29.99
EYE OF THE BEHOLDER	£26.99
F-15 STRIKE EAGLE	£26.99
F-19 STEALTH FIGHTER	£29.99
F-29 RETALIATOR	£26.99
FLIGHT SIM AIRCRAFT & SCENERY DESIGNER	£26.99
FLIGHT SIM SCENERY/INSTANT FACILITIES LOCATOR	£29.99
FLIGHT OF THE INTRUDER	£26.99
FLIGHT SIMULATOR 4	£39.99
FLIGHT SIMULATOR SCENERY	
- EUROPE	£13.99
- HAWAII	£13.99
- JAPAN	£13.99
FOOTBALL DIRECTOR 2	£15.99
GO	£22.99
GUNBOAT	£22.99
GUNS AND BUTTER	£22.99
GUNSHIP	£26.99
GUNSHIP 2000	£32.99
HEART OF CHINA	£34.99
HOYLES BOOK OF GAMES	£26.99
HARPOON	£29.99
HEROES QUEST	£34.99
HITCHHIKERS GUIDE	£9.99
INDIANAPOLIS 500	£19.99
ISHIDO	£26.99
JACK NICKLAUS GOLF	£19.99
JACK NICKLAUS GOLF UNLIMITED	£34.99
JACK NICKLAUS GOLF	£22.99
- COURSES VOL.1	£9.99
- COURSES VOL. 2	£9.99
- COURSES VOL. 3	£9.99
- COURSES VOL. 4	£11.99
- COURSES VOL. 5	£11.99
- UNLIMITED PLAY DISK	£13.99
JETFIGHTER II	£34.99
KICK OFF 2	£19.99
KINGS QUEST 4	£29.99
KINGS QUEST 5	£34.99
KNIGHTS OF LEGEND	£22.99
KNIGHTS OF THE SKY	£29.99
LEATHER GODDESSES	£9.99
LEISURESUIT LARRY TRILOGY	£39.99
LEMMINGS	£27.99
LIFE AND DEATH	£22.99
LIFE AND DEATH 2	£22.99
LINKS	£34.99
LINKS - COURSE BOUNTIFUL	£13.99
LINKS - COURSE FIRESTONE	£13.99
LORD OF THE RINGS	£29.99
LOST PATROL	£22.99
LIGHTSPEED	£29.99
M1 TANK PLATOON	£29.99
MARTIAN DREAMS	£23.99
MEGA FORTRESS	£26.99
MEGA TRAVELLER 1	£26.99
MIDWINTER	£26.99
MIG 29 FULCRUM	£29.99
MONKEY ISLAND	£26.99
MONOPOLY USA	£26.99
MOONBASE	£34.99
MICROPROSE SOCCER	£19.99
NAM	£26.99
OPERATION STEALTH	£26.99
PGA TOUR GOLF	£21.99
PICTIONARY	£20.99
POLICE QUEST 1	£24.99
POLICE QUEST 2	£29.99
POPUOUS SIM CITY (TWIN)	£26.99
POPULOUS PROMISED LANDS	£12.99
PRINCE OF PERSIA	£23.99
PRO TENNIS TOURNAMENT 2	£24.99
RAILROAD TYCOON	£26.99
RAPCON	£26.99
RED STORM RISING	£26.99
RED BARON	£29.99
RICK DANGEROUS 2	£19.99
RISK	£19.99
RIDERS OF ROHAN	£26.99
RISE OF THE DRAGON	£34.99
SAVAGE EMPIRE	£26.99
SILENT SERVICE 2	£29.99
SIM CITY TERRAIN EDITOR	£12.99
SIM CITY ARCH 1	£12.99
SIM CITY ARCH 2	£12.99
SIM EARTH	£29.99
SORCERERS	£24.99
SPACE ACE	£34.99
SPACE QUEST 1	£26.99
SPACE QUEST 2	£26.99
SPACE QUEST 3	£30.99
SPACE QUEST 4	£30.99
SPEEDBALL 2	£22.99
STORMOVIK	£22.99
SUPREMACY	£20.99
TEST DRIVE 3	£22.99
TEAM YANKEE	£26.99
TRACON 2	£26.99
TV SPORTS BASKETBALL	£26.99
TRIVIAL PURSUIT	£19.99
ULTIMA TRILOGY	£24.99
ULTIMA 5	£19.99
ULTIMA 6	£26.99
UMS	£22.99
UMS 2	£32.99
W. COMMANDER MISSION DISK 2	£13.99
WELLTRIS	£24.99
WING COMMANDER	£29.99
W. COMMANDER MISSION DISK	£13.99
CARMEN SANDIEGO	
- WHERE IN THE WORLD IS	£26.99
- WHERE IN TIME IS	£26.99
- WHERE IN EUROPE IS	£26.99
- WHERE IN THE USA IS	£26.99
WOLF PACK	£26.99
WONDERLAND	£26.99
ZORK 1	£9.99
ZORK 2	£9.99
ZORK 3	£9.99

SPECIAL OFFERS

FREE WITH ORDERS OVER £25 - HEAD CLEANING DISKETTE (STATE 5.25" OR 3.5")

COMPETITION PRO PC DIGITAL JOYSTICK WITH GAMES STARTER PACK	£39.99
COMPETITION PRO PC DIGITAL JOYSTICK	£12.99
COMPETITION PRO PC CARD	£19.99
CONTRIVER ANALOGUE JOYSTICK	£16.99
CONTRIVER ANALOGUE GAMES CARD	£20.99
CONTRIVER SERIAL MOUSE	£24.99
CONTRIVER TRACKBALL	£34.99
SOUNDBLASTER SOUND CARD FOR PC. INCLUDES MIDI INTERFACE, JOYSTICK PORT, POWER AMPLIFIER AND SOFTWARE	£149.99
EXTERNAL PC SPEAKERS (BATTERIES NOT INCLUDED)	£19.99
ADLIB MUSIC CARD, AUDIO OUTPUT THROUGH EXTERNAL SPEAKER OR HEADPHONES (NOT SUPPLIED)	£99.99
FLIGHT CONTROLLER YOKE	£49.99

ORDER INFORMATION

MasterCard VISA

Open 8am-8pm Mon-Sat

Call 0707 875757 or Fax 0707 875513

Post (state disk size):

Computermate Supplies,
Dept NCE, 1 Brookside,
South Mimms, Herts EN6 3PT

ATARI UPGRADES

ATARI 520 STFM (call for details)

16 or 4 chip upgrade kit - needs soldering	£35
16 or 4 chip upgrade including fitting	£45

UPGRADE BOARDS

520ST to 1024K	£70
520ST to 2.5Mb	£150
520ST to 4Mb	£200

520 STE SIMMS

512K to	1Mb	2.5Mb	4Mb
	£30	£99	£180

PC EMULATORS

PC Speed	£100
AT Speed	£200

Free Fitting

INTERNAL FLOPPY UPGRADE

1Mb Internal £45
Requires case modification

Fitting service available please call for details

ABEVILLE COMPUTERS LTD.
Imperial House, St Nicholas Circle,
Leicester, LE1 4LF
Tel: (0533) 628182
Fax: (0533) 626636

VISA Access

Prices include P&P. Prices exclude VAT.

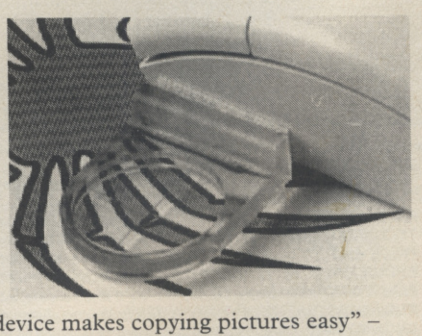
Simple! Ingenious!

TRACEY

Turn your mouse into a digitiser – for just £7.95!

Do you want to trace photographs and sketches into your DTP or graphics package? You need Tracey! This precision-moulded transparent puck attaches to any standard mouse to give a quick visual guide of what you are tracing. Fixes to either side of the mouse for left or right handed use.

★ Removable when not in use
★ Ideal for Amiga, ST, PC, Mac and all flat-sided mice
★ Only £7.95 including VAT and p&p



"This novel little device makes copying pictures easy" – *Amiga Format, Nov. '90*

"If the rule that all the simplest ideas are the best is applied, then Tracey gets the prize" – *Computer Shopper, Jan '91*

Cheque with order. Trade enquiries welcome.

SideWise Ltd (Dept NC142), PO Box 4, Totnes, Devon TQ9 7EN

WHAT'S NEW

Get the lowdown here on the latest additions to the world of modern technology

Olé it's LCD

PRODUCT: Flat screen colour LCD display
NAME: Freestyle DU 127
COMPATIBILITY: PC

The Freestyle DU 127 is one of the first colour flat screen monitors to use Thin Film Transistors (TFT), the latest in liquid crystal technology.

It is small by comparison to standard monitors, weighing 2.6Kg, measuring 51mm thick, and with a screen size of 264mm. Because of this new technology, the monitor has a heat dissipation of 25 watts, compared to the 90 watts in traditional CRT monitors. It makes use of the PCs power supply rather than needing a wall socket thus reducing cabling and frees up power sockets. The monitor is also suitable for use in areas where there is only a small working space.

Because the TFT technique allows every pixel of colour to be controlled by its own transistor, resolution of up to 640 x 480 pixels is possible. TFT also provides a sharper picture display, distinct contrast and faster screen updates than conventional CRT technology, or so the company claims.

Price: £3,200
Availability: Now
Target users: PC users who need a small, clear screen or have limited space.
Contact: Nokita Data Ltd: 081-569 7700
Perceived competition: Other monitor manufacturers such as NEC, Philips and Taxan.

• Able to fit on the corner of a desktop, the Freestyle DU 127 is one of the first colour flat screen monitors to use TFT liquid crystal technology.

Flash! Saver of the RAM

PRODUCT: Flash memory card drive
NAME: SCM MCD1 memory card drive
COMPATIBILITY: PC

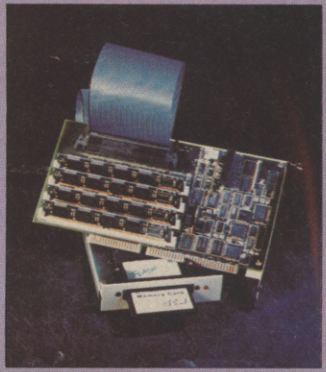
SCM's Flash Drive is a circuit board that fits into a PC slot. Based on SIMM (Single In-line Memory Module) RAM modules, it can be accessed in a similar way to a disk drive, providing up to 32Mb of storage memory.

The MCD1 occupies the same space as a standard 3.5-inch floppy disk drive. It comes with a PC-AT bus controller card which can control up to three floppy drives and also installation software. The controller can also provide up to four Flash SIMM modules so it can double as an 8Mb Flash disk as well as controlling the other Flash memory cards.

The company assures us that a specially developed Flash Filing System makes the drive faster than a hard disk while also being more reliable.

The company also claims that the Flash Filing System can be made 100 per cent immune from viruses.

Price: From £445
Availability: Now
Target users: Those who need fast access to large amounts of data or program files such as CAD/CAM, graphics and DTP systems.
Contact: DMST Ltd: 0635 247717
Perceived competition: Manufacturers of large capacity hard disks, such as Seagate.



• Flash Gordon may well have saved the world on a few occasions, but could he save data like the Flash memory drive?

PS: I want you

PRODUCT: Heavy duty Postscript laser printer
NAME: Mannesmann Tally MT911PS
COMPATIBILITY: PC, Amiga, ST

Mannesmann Tally has launched a Postscript-compatible version of its MT911 heavy duty laser printer.

According to the company, the printer has an estimated expectancy life of 600,000 pages and a print speed of 10 pages per minute. 35 scaleable fonts are resident in the printer's hardware, and other fonts can be downloaded through software, if needed. Emulation is provided for the HP Laserjet II as well as the Postscript standard.

A range of paper handling facilities are included such as a 200 sheet input cassette and up to 20 additional sheets can be loaded into the manual feed.

The printer comes with 2.5Mb RAM as standard and this can be expanded to 4.5Mb. Both parallel and serial interfaces are provided.

Price: £2,200
Availability: Now
Target users: Those who want a heavy duty Postscript compatible laser printer, such as DTP bureaus.
Contact: Mannesmann Tally: 0734 788711
Perceived competition: Other laser printer manufacturers, such as Hewlett Packard and Epson.

Portable pointing

PRODUCT: Thumb-operated pointing device
NAME: Logitech TrackMan Portable
COMPATIBILITY: PC

Logitech has come up with the TrackMan Portable, which looks like a good bet for users of portable computers who find a mouse too awkward to control on the move.

• Just when you thought you would never able to use Windows with your laptop Logitech's TrackMan thumb-operated controller comes along to save the day.

The ball of the device is operated by the user's thumb, while the index finger controls the primary button on top of the device. The second and third buttons are also thumb-operated.

It combines the feel of a trackball with the three buttons of a mouse and is designed to attach to any portable PC-compatible keyboard. It can also be used with desktop machines thanks to its rubber feet which stabilise it on the desktop.

The TrackMan Portable is attached to the keyboard by a spring-loaded, one piece bracket. The controller snaps into place on the mount and is held at a 45 degree angle to the keyboard, which, according to Logitech, corresponds to the hand's natural slant.

To suit both left and right handed people, the button on top of the mouse can be reversed and the cable underneath can be re-routed to the other side of the keyboard.

Logitech's TrackMan Portable comes with the company's MouseWare driver program, a five foot extension cable, the keyboard attaching bracket and 9 to 25 and 9 to 6-pin adapters.

Price: £95
Availability: 2 September
Target users: Corporate and education portable computer users who need to use a graphical interface on the move
Contact: Logitech (UK) Ltd: 0753 37222
Perceived competition: All ball operated pointing devices.

Control yourself!

PRODUCT: Printer controller board
NAME: LaserPix
COMPATIBILITY: PC

• Laserjet II images can be improved even further with LaserPix, a card that can increase resolution to as much as 2,400 dpi.

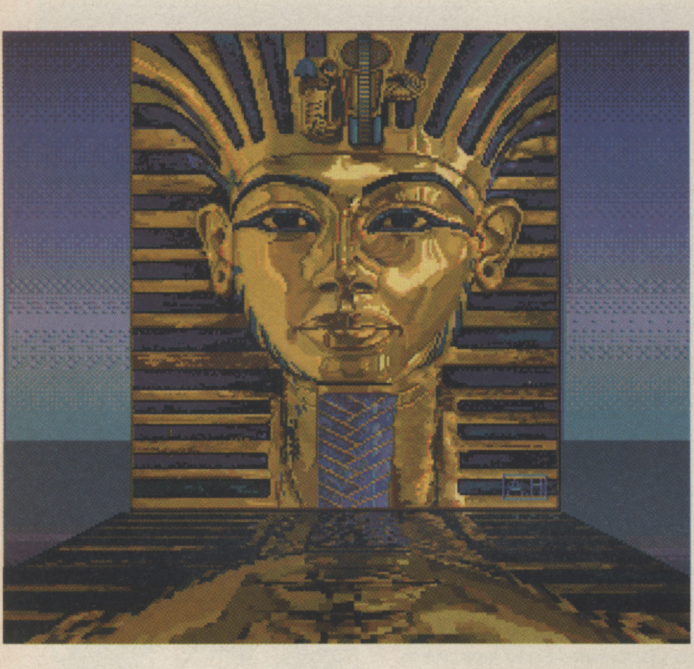
Data Cell has released LaserPix, a printer controller board that can produce laser output images on plain paper at resolutions of 1,200 to 2,400 dots per inch (dpi).

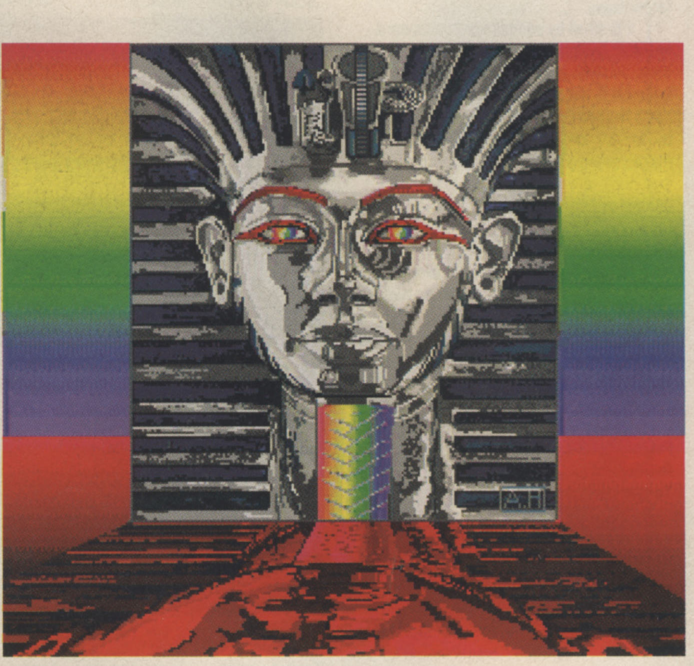
LaserPix fits in an AT expansion slot and can accept data from a number of input devices, including scanners, digital cameras and frame grabbers. Output, via an Hewlett Packard (HP) Laserjet II or III, is a half-toned print with 256 grey levels and 75 or 150 lines per inch. Print speed is eight pages per minute (ppm) no matter how big the image is.

LaserPix comes with a 16-bit AT bus card, an interface card for a Laserjet printer, six foot video cable and LaserPix software.

Price: Ventura/Pagemaker /DOS £1,250
Windows/Pagemaker 4/Ventura 4 £1,500
Availability: Now
Target users: HP Laserjet II or III users who want improved images,ie: medical imaging, industrial applications etc through to picture databases and desktop publishing.
Contact: Data Cell: 0734 333666
Perceived competition: Other printer upgrade cards, particularly those for the HP Laserjet ■

Thinking about NOT buying the next issue of Amiga Format?





Tut tut!

This picture of King Tut is known by more people in more nations than the pharaoh ever was. It's the symbol of Deluxe Paint, probably the finest piece of graphics software ever written. Deluxe Paint is used by nearly all Amiga games programmers to create the graphics for their games, simply because it's the best.

Now there is a new version of Deluxe Paint out – **Deluxe Paint IV**. It's probably the most important non-games release on the Amiga in the last three years. It takes Deluxe Paint to the ultimate extreme of Amiga graphics, allowing you to create 4,096-colour pictures using HAM mode.

And where can you read the exclusive first review?

In **Amiga Format**, of course!

And what's that on the cover of the issue? Well, knock me down with a feather if it's not a Coverdisk! And it contains an almost-complete copy of the new **Deluxe Paint IV** as a **fully useable demo**. You'll be able to create your own 4,096-colour pictures and see for yourself how good it is!

Also on this extraordinary Coverdisk is a playable demo of **Magic Pockets**, the latest platform extravaganza from the Bitmap Brothers. You've laughed at the idiots who played it on TV's Motormouth: now give it a go for yourself!

AND we bring you the full inside story of how the music is created for games, courtesy of top-name musicians like Betty Boo, Bomb the Bass, John Foxx and those Bitmap experts.

PLUS the widest and best range of reviews anywhere: not just games, but also exciting stuff like the newest drawing program, the new 3D game creation system and the latest in 16-million colour painting.

Don't miss Amiga Format Issue 26, on sale August 8
Exclusive review and Coverdisk demo of Deluxe Paint IV

SHOPPING EXPRESS

CONTENTS

AMIGA 16
ST 17
CPC 19
C64 20
SPECTRUM...........................22
PC 23
MAC.....................................24
WHOLE WIRED WORLD 28
CIRCUIT CITY 31
TECH TIPS.............................32
PROGRAMMING 40
EXPRESS ON-LINE 42
THE PD COLUMN....................44
THE EVENT HORIZON 46

EXPRESS MAIL

Welcome to letters pages that get you thinking

This week, Haydn Fitz-Williams prints your views on Acorn and the Archimedes, console failures, helps you sort out the Gurus from the wackers and continues the piracy debate. Plus your chance to put a question to top industry figures!

Falling Arcs

I was saddened to see the demise of the Archimedes column, I also realise that at £700+, the Arc will never take off as a home computer. Why doesn't Acorn relaunch the Arc at a sub £400 price and watch people flock to buy it?

The competition at this level is clearly the ST/AMIGA and let's be realistic, the Arc beats both of them out of sight as far as speed, graphics and sound go. The software would pour out by the ton if this happened, so the software-bare problem would also be eliminated.

The Arc could be *the* machine to buy this Christmas, if, after five years, Acorn finally drop the price to a level people like me could afford. I do hope someone at Acorn listens to my point of view, as there are many like me aspiring to this machine.

Liam Stuart, Argyll, Scotland

WOULD PEOPLE really flock to buy a machine with the limited amount of software that's available for the Archimedes and the BBC A3000? Time and time again, it has been proved that it's the software and not the specification that sells a machine.

If you don't believe it look at the phenomenal success of the IBM PC, a machine which is, at best, dull.

If Acorn were to drop the price of this aspirational machine, do you think that people would buy it in great quantities given that the ST and Amiga have a huge software and peripheral base?

Your words won't go unheeded. A reliable source tells us that all at Acorn wait with baited breath for Thursday each week and what it brings ...(*Express*).

Guru revealed I

Inside every Amiga lies a being, a 'Wacker', who is there to automatically fix any errors which may occur due to another being, the 'guru'.

For many years now, (well, since '85) a war has been waged between the 'Wacker' and the 'Guru'. It is the Wacker's job to wack the system ROMs into place after the bad old Guru has messed them up (hence the 'ROM-wack' on N J Andrews printer, *Express* 139). In the very, very rare case of the Guru winning this silent battle (I own an Amiga...), the wacker will print 'ROM-wack' via any available serial printer. However, sometimes things can go terribly terrible.

If the Guru in your machine comes into contact with another Guru, erm, things can 'happen'. WHAM-BAM 'Son of Guru'. If this does happen, the ever watchful wacker has only one choice – expunge it via the good old serial port. The numbers that appear on the paper are actually a 'Guru', in the, ahem, flesh.

I cannot stress enough how important it is to get rid of the resulting print-out – the numbers that lie on that paper are EVIL!

Special Agent Dale, Belfast

THANKS FOR THAT. Your next mission is to capture the Guru as it appears at the serial port and lead him screaming to the *Express* office in Monmouth Street where we'll pay a bounty for his capture.

Guru revealed II

I picked up a copy of *Express* 139 because I was interested to see another preview of *DPaint IV*, and what do I find when I get to page 14? A nice little mystery, all about ROM-Wack. Well, I will try to throw some light on the situation.

ROM-Wack is the Amiga's ROM resident debugger, accessible through the serial port using a 9600 baud terminal. ROM-Wack is invoked by clicking the right mouse button when the Guru is up there strutting his red stuff for you.

At a guess I would say that NJ Andrews has a serial printer that was on-line at the time. Because his printer was sitting ready to receive at the time, ROM-Wack decided to dump out information. To a programmer this information would be useful in deciding which task caused the problem, where it happened, why it trashed the OS and ultimately how to deal with it. I think this has been helpful.

Dominic G LeGros, Suffolk

AND TO A MERE MORTAL, it would be nice if it printed a diagnostic in a language anyone could understand, explaining what went wrong, and called on some mystical magical routine to put it right. Something simple like: 'Oops, the splodge widget gave your Amiga a headache, but it's fixed now. Press right button to continue'.

Cyber Warrior

Firstly, knowest thou anything about the "Cyber Times"? I subscribed 12 months ago, got one issue and haven't been able to get a word out of them for over six months. Do I smell or something??

Secondly: I was wandering through the video arcades a couple of days ago. I came across a rather attractive laser disk game by Atari Games. It's basically a laser disk Western in which you shoot the bad guys with a light gun. "Great" I thought, after all, it's not every day you get to maim over-acting folk with bad beards.

Eagerly I inserted my quid coin and unholstered my weapon. I took aim, fired and saw my shot fly off in totally the wrong direction. Again I fired, again I missed. A crowd of tourists laughed at my tortured screams as I collapsed into a quivering heap on the ground. Deep hatred welling up inside me, I cast an accusing glance at the gun still lying in my hand and saw emblazoned on the butt one word that filled my soul with terror – "NINTENDO". SABOTAGE!!!!

The Android, Clwyd

WE'VE NOT HEARD ANYTHING of Cyber Times for a few months and if your performance in laser-land is anything to go by you could do with an influx of cyber power to restore your skills with a light gun. If any readers can give us clues to the status of Cyber Times, please pass on the information and we'll make a Welshman happy.

Laugh a minute

Sorry, but I couldn't help laughing when I read Martin Turner of Twickenham's letter "Atari Jokes' in *Express* 140.

How can he say "Where's the market in transputers and UNIX workstations?" when nearly everyone is putting out UNIX (and MINIX) systems?

I don't have a home computer, but I program on a Motorola 88K RISC machine (Multi-user, Multi Processor and UNIX based) where I work and regularly read the trade computer magazines, where UNIX is getting put on to everything, due to its "open systems" nature.

Yes, it even out-performs the mighty Amiga DOS! Just look at a Sun or Sony NEWS workstation to appreciate the raw power of this system. Remember – these will become the PCs of the future! So Martin, check out the whole computer market prior to passing comment, not just the 18 per cent based micro computer market!

Kevin Rustill, Beds

MARTIN COULD SAY 'where's the market' because until reading your weighty tome, he was probably convinced that he was right. He may still not be convinced otherwise.

The systems that you describe are indeed becoming more popular and with the advent of powerful affordable desktop machines, UNIX, MINIX et al the existing STOS, MS/DOS and TOS will have new contenders to do battle with. One mustn't discount the existing operating systems because they aren't the latest whizzy full featured multi-tasking wonder. After all, MS/DOS hasn't done so badly for an oldster, has it?

Up to date

Congratulations on keeping *NCE* within the real world. There are several old machines around and I'm sure that you will have alienated at least three people by curtailing your coverage of them,

ON THE COUCH

This week *Express*' resident analyst, Dr Clare Anthony, reaches deep into the subconscious of JON PALMER of LIVERPOOL. Jon put printer to paper with some red ink (says a great deal about you Jon) and told Dr Clare what machine he owns, his most beloved software, and the machine which would make his life complete. Clare gave him the full 48 hour treatment on the famous soft sofa. If you would like the same you should write to: Leather Couch Clare, *New Computer Express*, 30 Monmouth St, Bath BA1 2BW – you never know, it could change the way you think about life.

Are we ready Jon? Right, lie down, close your eyes, and try to empathise with your inner-self.

- MACHINE OWNED:
  Atari Lynx
- FAVOURITE SOFTWARE:
  Slime World
- DESIRED MACHINE:
  Compaq 486

You're being a little sneaky here, trying to slip a Lynx passed me. It's not strictly a computer at all, merely a way to create fantastic environments within which to sublimate real desires for physical interaction. *Slime World* is an interesting choice of game. There are numerous tunnels to explore, the ability to jump up and down rapidly, and a weapon which shoots at will. Of course the destruction of what you see as agressive alien life-forms, combined with your own inability to actually compute, that is to say control and create, with the Lynx, suggests a sado-masochistic streak combined with a basic need for abreaction and introjective tendencies. No problems here until that is we look at your wish-state. A Compaq 486. Not any PC, but one from a company which is seen as major competition to the 'Daddy' of them all, IBM: Oedipus doesn't cover it.

PROGNOSIS:

There is a basic need within you to equate your need for powerlessness with a strong desire to prove that you can have power. Best course of action is to move into estate agency where you can use a LAN server and not be worried by your own lack of power.

but that is their fault for not living in the present.

If you bought a magazine like *Auto Express*, you'd soon moan if they started covering eight year old Skodas on a weekly basis.

Stuff the oldies, they should buy a new computer or belt up.

Ron Dearbury, Marlborough

EXPRESS' policy on machine specific columns is simple. If there's enough interesting, useful and practical information coming in on a weekly basis to support a column, we employ a specialist columnist who knows the machine inside out to write about it.

If only small amounts of information come in, we treat each story on its merits and assign it to the appropriate section of the magazine.

Big blue apples

With regard to your story on the agreement between IBM and Apple (*Express* 141), I can't help but think how this will affect the small computer user.

I'm all in favour of progress, but if big companies such as these two giants get together then it will affect things lower down. Companies will be seeking to advance technology, which is fine, but in doing so they are likely to forget the small users. Sure, their work may filter down through the ranks of computing years from now, but in the short term I wonder if Apple will still place as much emphasis on, for instance, its low-end Classic machine?

And although IBM and Apple haven't merged and still remain separate entities, they'll presumably both strive to protect their interests. What effect will this have on smaller companies trying to be innovative? Will the corporate muscle of the giants stifle innovation for the sake of protecting their (considerable) interests?

And another thing – if PCs start to use the Mac interface as well as Macintoshes themselves, then won't computing be boring?

Bob Candy, Ipswich

IT DOESN'T FOLLOW that the joining together of these two large companies will be to the detriment of the small user. IBM has tried for years to get into the home computing market without the huge success that Apple has seen in this area worldwide.

Hopefully, the mixed marriage of Big Blue and Little Green Apples will be the beginning of a new era in computing designed to be suitable for everyone.

The thought of IBM throwing out Windows and everything else Microsoft, in favour of the deliciously productive Mac System 7 can only warm the cockles of the productive user!

Ask a question and win a fiver!

Yep, this is your chance to put your queries to some of the world's leading computer companies. Over the summer, *Express* will be conducting a series of interviews with some of the biggest names in the biz. And we want your contributions!
Here's the list of the top manufacturers and developers we'll be talking to:

● Acorn ● Amstrad ● Apple ● Atari ● Commodore ● IBM
● Intel ● Microsoft ● Motorola ● NEC ● NeXT ● Nintendo
● Panasonic ● Philips ● Sega ● Sharp ● Sony ● Tandy

The theme of the series is 'Towards 2000', so we'll be asking the UK bosses of these firms to tell us where they've been, where they're at and where they're going. And along the way there's bound to be an opportunity to ask a lot of niggling little questions you've always wanted answered but never found in print.

So now's your chance to find peace of mind and if we like your question you could win some dosh into the bargain! All you have to do is drop a line to 'Industry Interviews', *New Computer Express,* 30 Monmouth St, Bath BA1 2BW and we'll do the rest. But hurry, we want to get this off the ground as soons as poss!

CD Piracy

I, like everyone else, am sick and tired of the piracy debate, but I feel a something obvious has been overlooked.

Compact discs, while in the short term appear to be difficult to copy, could end up being just as 'easy' as cartridges to break. Admittedly this would require a bit of doing, but in Asia there are plants that pirate music CDs, so surely this existing machinery could be used to produce similar CD-I reproductions.

And CDs don't cost very much to produce in bulk, so in theory professional pirates could be attracted to copying something they could get a bigger return on.

Nimrod Davies, Wrexham

AS THE OPTICAL DISK becomes more prevalent through multimedia, it will no doubt be affected by piracy in the same way that audio CDs are now. It's not as simple as you think though, the data-dropout factor for CD-I, CDTV and other CD ROMs has to be considerably less than in an audio CD. This means using higher specification equipment that is less easy to source and set up.than a conventional audio CD replicator.

We contacted two UK data CD producers and they confirmed this is the case. It is possible, but not yet probable.

Console-ation

I know it's easy to be wise after the event, but even I could see that both Commodore's C64GS and Amstrad's GX consoles were doomed for failure. The public isn't that gullible (and if it is I've got a few ideas to make a bit of money then) and won't be sucked into buying old technology no matter what it looks like.

I've got a soft spot for the 64, but it has always been a computer and should stay as one. After Commodore's failure with the GS, the new repackaging of the 64 as a 'console-with-a-keyboard' will, I feel, suffer a similar fate. I wish they'd let the 64 have a slow and distinguished death, rather than giving it umpteen facelifts and causing it considerable embarrassment. Heaven forbid it to be known as the Zsa Zsa Gabor of the computer world!

Fay Sclifft, Austria

THE GX4000 and the C64GS were too late. Sega and Nintendo have already divided and conquered the console market with tried and tested products. in a console-less world, who knows, Amstrad and Commodore might have done better.

You mustn't forget that the C64 was a cartridge machine from the start and has always supported ROM based software.and is not as you suggest, some old crony, rejuvenated to pander to a passing trend. ■

Write Now

Write and tell Haydn Fitz-Williams what you think! Reach him at: *Express Mail, 30 Monmouth Street, Bath BA1 2BW*. Sorry, no personal replies, even with an SAE and remember, only SOME letters win a fiver!

On-line mail

Own a modem? Then squirt us a letter. *Express* has its own area on Aspects bulletin board (061 792 0260) where you can leave mail and upload/ download files.

We also have our own conference on CIX. Give this on-line service a ring on 081-390 1244 and talk to us direct!

You can also leave E-mail for us on Prestel and Micronet - get in touch on 011112623, or on Telecom Gold @84:txt152

NEW AGE COMPUTING

For all your Amiga & communication needs!

AMIGA 500 DEALS

Before you buy an Amiga from someone else check:
As well as the standard pack, does it have

- A free mouse mat
- A free disk head cleaning kit
- 15 professionally packed public domain disks
- A complimentary issue of Computer Lynx (See below)?

No? Well ours do! Check us out first...

CARTOON CLASSICS 1 Meg £375

SCREEN GEMS 1 Meg £365

HARD DRIVE OPTIONS

A1500/2000

GVP OR XETEC SCSI HD controller with 8 meg RAM Upgrade option on board.

Card (OK) state GVP/XETEC	£199.99
Card + 52 meg drive	£429.95
Card + 105 meg drive	£581.95
Card + 170 meg drive	£787.95
2 meg RAM	£79.00
4 meg RAM	£157.50
8 meg RAM	£314.00

A500

Commodore A590 controller, 2 meg ram option on board.

A590 + 20 meg drive	£285.95
A590 + 52 meg drive	£489.95
A590 + 105 meg drive	£645.95
A590 + 170 meg drive	£855.95
2 meg RAM	£70.00

All ram only sold when bought with drive bundle.

BULK DISKS

Benchmark branded buld disks + labels

25	50	100	500
£16.00	**£28.00**	**£40.00**	**£162**

PREFORMATTED

We can now even FORMAT the disks for you!

25	50	100	500
£17.25	**£30.50**	**£45.00**	**£185**

3.5" DISK STORAGE

40 Capacity lockable box	£4.50
80 Capacity lockable box	£5.50
POSSO 150 Capacity drawer	£17.00
BANX 90 Capacity drawer	£9.00

* Order ANY 3 boxes and get 10 disks FREE *

A500 0.5 MEG MEMORY UPGRADE

Expansions without a clock are just a waste of time!

With Clock Just £26.99

SLIMLINE 3.5" AMIGA DRIVES

With throughport, switch & FREE computer & Lynx disk!

Only £55.00

TURBO 68000 7/14 MHz SWITCHABLE CHIP

Complete with board, manual and software

Only £39.99

Revision 5.2 + Amiga needed. If in doubt CALL first.

REPLACEMENT MICE

280 dpi - mouse mat & holder included
Now contains £10 of software vouchers and free copy of operation stealth

Naksha Mouse..........................£23.00

PROFESSIONAL PUBLIC DOMAIN!

- as featured in NEW COMPUTER EXPRESS.

Large range of PACKAGED public domain software available to give that little edge...Call/write for a list now!

COMPUTER LYNX - The Amiga disk magazine

The action packed magazine ON A DISK!
Demos, news, interviews, reviews and more!
WE CAN'T EXPLAIN IT HERE! - SEND FOR A TASTER!

Exclusive from NEW AGE only £1.50

MOUSE MATS

VINYL	£1.99	FOAM	£2.99

PRINTER STANDS

UNIVERSAL	£6.99	WIRE	£9.99

DUST COVERS

A500	£4.50	STAR LC-10	£5.50

PRINTER RIBBONS

Star LC-10	£3.00	Star LC24-10/24-200	£4.50
Epson MX/FX80/800	£3.50	Epson LX80/86	£3.00
Panasonic KXP1124	£4.75	KXP 1080/1081/1180	£4.50

Call for your printer NOW!

POSTAGE AND PACKING: Please add 50p for orders under £2.00, £1.50 for orders up to £10, and £2.00 for all orders above.

Access ALL PRICES INCLUDE V.A.T. Payments payable to "NEW AGE COMPUTING" VISA

Dept NCE, 187 Perrysfield Road, Cheshunt, Herts, EN8 0TL
Telephone (0992) 465366 / (0831) 820097. Fax: (0992) 450009

AMIGA

- **AMOS 3-D arrives, and what a corker it is too!**
- **3-D models in minutes! No complex calculations!**
- **How to get the fonts that you want for *Prodraw***

3-D MADE EASY

After just over two years of secret development, Europress Software's latest extension to the highly acclaimed AMOS games programming language has well and truly arrived.

AMOS 3-D, with a price tag of just under £35, enables you to create games and demos that use realtime 3-D graphics like those seen in such games as *StarGlider 2* and *Elite*.

I've been playing around with AMOS 3-D for just over three weeks now, creating in hours the kind of 3-D effects that would previously have taken weeks. It also takes the pain out of working out all those complicated 3-D calculations.

The AMOS 3-D package comprises two separate modules – a language extension for AMOS BASIC and a powerful 3-D object-modelling program called *OM*. When used together, these two programs will allow your AMOS programs to enter the next dimension.

OM is the workhorse of AMOS 3-D. It is easy to use, yet powerful enough for even the most demanding of 3-D creations. It seems a rather daunting program at first, but a quick read through the AMOS 3-D manual and tutorial is all that is needed to suss out even its most complex features.

In fact, you'll be amazed how quickly you will be creating some quite complex objects – I was able to create a 3-D model of a jetfighter in little over half an hour. Try doing that with *Sculpt*!

Your 3-D creations are constructed using a set of system blocks (graphics primitives) which are stored along the top of the *OM* editor screen within what it calls 'shelves'. These blocks can be copied from the system shelves down into one of two major and five minor editing shelves. Most operations will be carried out within the two major shelves, but the minor shelves are handy for storing half completed objects.

The system blocks are fairly basic, ranging from simple 2-D faces to a 3-D cube. However, these can be modified substantially to suit your own particular modelling needs. First you select the block, then the face and finally either the point or edge you want to manipulate, then you expand or contract it using the mouse. Some quite complex objects can be created.

If the primitives themselves will not suffice, you can go one step further by combining blocks. There is a restriction to the number of blocks you can use within a single object – eight – so it's worth planning out your 3-D objects before you get stuck in.

☎ Europress is on 0625 878888.

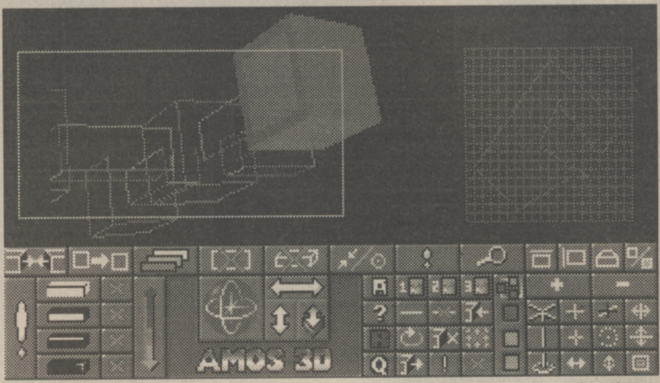
AMOS 3D: THE LANGUAGE

Obviously creating 3-D objects is only half the battle. What you actually want to be able to do is to use those 3-D objects within your own programs.

To make this possible, AMOS 3-D adds no fewer than 30 new commands to the already impressive command set. Designed specially for 3-D work, they cover just about every conceivable aspects of working with 3-D.

Once objects are loaded, they can be moved around within 3-D space using both relative (delta) or absolute values. The user's viewpoint can also be moved around within 3-D space, allowing you to create some very pleasing visual effects which resemble a camera-panning manoeuvre from a film. And to stop you from getting lost, the viewing angle can be locked onto a particular object, so that you can watch it whizz around in 3-D space while remaining fully in view.

Unfortunately, AMOS 3-D doesn't perform 'in-betweening'; this is a process in which you specify a start and end position and expect the program to generate the movement frames in between. Instead, you have to set up a loop that re-draws the objects every so many pixels to create the illusion of



• OM is a very powerful 3-D object modelling program. It looks rather complex at first, but you will soon be amazed at its simplicity and power.

£1.99 NEW-WAVE £1.99

G.I.R.L.S. **Software** **G.I.R.L.S**

are proud to present

3½" + 5 ¼"

Great
Inventive
Relatively
Lameproof
Software

G.I.R.L.S

£1.99 each

We supply amazing G.I.R.L.S on all machines, G.I.R.L.S to amaze and astound you, G.I.R.L.S packed to the brim with new and exciting treats, our G.I.R.L.S have no viruses, our G.I.R.L.S will bring you hours of enjoyment.

On a more serious side, we have thousands of disks in stock, from utilities to the above review, just drop us a line and our G.I.R.L.S speak for ourselves.

B.L.O.N.D.E.S 10 FOR £5

Blank
Labelled
Original
New
Diskettes

WANTED
Coders, Graphix Artists, and Beat Boys, for our own demo group
NO LAMERS

DON'T FORGET YOU'LL ALWAYS BE SATISFIED BY OUR G.I.R.L.S

Send now for our free cat-disk and we apologise to anybody who has not yet received it, we just never believed the response!!

Don't be a T.A.R.T. buy our software

Truly
Annoying
Real
Twit

NEW-WAVE SOFTWARE, PO Box 199
Manchester M1 1JE
Tel: 061 839 5378 Fax: 061 839 5379
BBS: 061 839 5381
Orders outside UK, send for details.

NEW-WAVE £1.99 G.I.R.L.S.

Can you afford *not* to join?

39p **THE** *Amiga* **PUBLIC DOMAIN CLUB**

Yes that's right, you can now get Amiga PD for an amazing 39p per disk (Free if you supply the disk), once you have joined our friendly, fast growing and extremely popular Amiga PD Club. It must surely be the Public Domain buyers dream come true!

Lifetime membership to the club costs only £19.95. Much of this, however, will go straight back into the club to provide you with an even better service. Members will be able to choose as many PD titles as they like from our detailed catalogue disks, listing many of the Classic and Latest titles. We will bring you the very best in Demos, Utilities, Music, Art, Business, Animation, Games, Slides and much more. Just send us the blank disks & return postage and we will despatch your order to you the same day. It just couldn't be easier. As an added bonus, members not wishing to supply their own disks - don't have to. We will send your order on our own high quality disks for just 39p per title. We can't say fairer than that!

Members will also enjoy many other benefits including:
- ★ Many new titles to choose from every month!
- ★ Massive discounts on other Amiga Products!
- ★ All catalogue disks are constantly updated and are available FREE!
- ★ Superb disk magazine, FREE every month. (News, Reviews, Competitions, Letters, Classifieds and much more!)
- ★ A FREE games compilation to welcome all new members! A FREE mystery gift worth £24.99!
- ★ No minimum or maximum order!
- ★ Members can even request titles that we don't have at no extra cost!

Membership is usually priced at £29.95 a year, so apply now and take full advantage of this extra special offer. Remember, you can have LIFETIME membership for an incredible £19.95! Even your first order could save you £££'s!

To become a member, simply fill out the form below and send with a Cheque/Postal Order to:

P.A.S. Enterprises, Amiga PD Club, Dept NCE ,
3 St. Johns Walk, St. Ives, Cornwall TR26 2JJ, England.

Join now. We promise you will not be disappointed

The Lowest Priced PD Library in the U.K.

Please enrol me as a member of the AMIGA PD CLUB and rush me my members pack and membership number. I enclose a Cheque/Postal Order for £19.95 payable to P.A.S. Enterprises.

Name .... Address ....
....
Postcode .... Telephone ....

movement. A bit of a shame really.

Objects can also be animated. In a very similar fashion to *OM*, you can select a point or edge and drag it in or out in realtime from within your own programs, therefore creating the illusion of animation. It's not quite as flexible as I would have liked, but there are ways and means of getting around this limitation.

Despite these minor gripes, AMOS 3-D is as good, if not considerably better than any of us could have ever wished for. The 3-D is very well handled, with the vast majority of the hard slog needed to get things up and running being handled almost exclusively by the computer. If you already own AMOS, you'd be a fool not to splash out on AMOS 3-D. It is quite simply the most revolutionary programming utility ever!

THE FONTS YOU NEED

I must just say a quick thank you to Don Cox of Middlesbrough for his recent letter. In reply to my piece a few weeks back concerning the lack of Compugraphic fonts available, Don wrote to inform me of a new utility which is being developed by Mirror Image Productions in Canada.

Its PostScript-to-*ProDraw* package is a handy utility which will convert PostScript format fonts to *ProDraw* format. As Don points out, this is particularly useful for such things as headlines. Not only that, but it saves the time taken to download the fonts to your laser printer, therefore allowing for much faster printing times.

Presumably it should also be possible to convert the *ProDraw*-format fonts to *ProPage* Compugraphic format, although you'll need yet another utility to do this.

If you have a PostScript printer, Mirror Image also markets a very useful product which enables you to convert PostScript format fonts to standard Amiga bitmapped fonts. Obviously you lose the resolution of PostScript, but it's a nice way of obtaining a font in exactly the point size you require.

☎ Contact Mirror Image on 0101 416 495 7469.

MORE FONT CHANGES

If you want to be able to convert Compugraphic fonts to Amiga bitmap format, then it's well worth investing in a copy of Gold Disk's Outline Font Pack which contains no fewer than 35 Compugraphic fonts in a variety of different styles and typefaces. Also included is a very handy conversion tool that will convert the fonts to both *ProDraw* and Amiga bitmap format.

If you're into applications such as multimedia or desktop video, this font pack is worth checking out as it gives you a set of industry standard fonts which can be converted to just about any point size ready for use within just about any package that supports standard Amiga fonts.

I for one use the Gold Disk font package extensively.

☎ Gold Disk products are available from HB Marketing on 0753 686000.

Jason Holborn

ST

- **Sampler and sequencer special review column**
- **Three new software/harware package reviewed**
- **Powerful German database is a bargain at £98**

BRAVE NEW MARKET?

The 16-Bit Computer Show two weeks ago was (judging by the rib cage squeezing number of people there) a terrific success. Over 130 companies set up store on two floors at the Novotel in London and proceeded to flog hardware and software at knock-down prices.

One aspect of the show which puzzles me is the complete lack of American companies. Outfits like Double Click Software and Gribnif in particular are realising that they can sell far more in the European market, than they ever could in the states.

The 16-Bit Show isn't really the place to launch new packages, it's more of a retailers day. However, a couple of brave companies were show-casing new programs. To find out what was the best on offer, read on...

STEREO SAMPLING ONE

Shortly after the debut of its brilliant Pro Series 16-bit sampler last month, AVR has followed this up with another doody piece of hardware, namely the Stereo Replay sampling cartridge.

The sampler itself is a standard 8-bit affair with dual analogue to digital (and vice versa) convertors. It records from twin phono sockets and works on any ST, STF, STFM or Mega.

The editing software makes full use of the stereo convertors, enabling you to pan, swap, loop, cross fade and sample pan. The resulting sounds can then be output to a hi-fi in glorious stereo, with the sound image switching between the two speakers.

All the standard sampling effects are included in the software, including digital filters, hall, room, echo, reverb and flange. Up to 10 samples can then be playing from one MIDI keyboard, meaning that a whole orchestra of sounds can be built up quickly.

Stereo Beat is an ancillary program which enables kits of up to 15 different samples to be loaded into memory and then re-mixed using a pattern editor. The tempo of these sequences can be played back in anything from 40 to 239bpm (beats per minute).

Stereo Replay costs £89.95 and is available from Microdeal, PO Box 68, St

Continued on next page ➤

ARCOM COMPUTER SERVICES

IBM PC - NINTENDO - SEGA - ATARI - AMIGA

GAMES AVAILABLE FOR ALL MACHINES IN ALL FORMATS

We cannot possibly list all the games we have available, so why not contact us and let us help you choose your next game

IBM PC's

Wing Commander..29.99
Space Quest IV..28.99
F19 Stealth..28.99
Lemmings..28.50
Zeliard..28.00

JOYSTICKS ***DISKS*** ***SOUND CARDS***

FOR MORE DETAILS

ARCOM COMPUTER SERVICES
Alice House, 10 High Street,
Ashwell, Herts. SG7 5NL

OR CALL

046274 2024

PRICES INCLUDE DELIVERY & VAT

ELECTRICLOWN

☆ ***AT LAST A NEW RANGE OF SELECTED PROGRAMS ON QUALITY MENU DRIVEN DISKS*** ☆

THE ELECTRIC RANGE

The Electric range of Disks has been specially compiled from the thousands of P.D. titles available. They are fully menu driven and topic related. But don't just take our word for it, why not check them out.

ELECTRIC-01
ANTI-VIRUS TOOLKIT
Bootx
Master VK-2.1
Virusx 4.01
Zerovirus
Virus Check

ELECTRIC-02
WORDPROCESSING
Text Plus
Uedit
Wordwright
Amigaspell
X - Spell
Word Counter
Keyclick

ALL DISKS *VIRUS FREE*

ELECTRIC-20
ASSEMBLER PACK
A68K
BLINK
MON
TEXTRA
TOP

ELECTRIC-19
C PROGRAMMING UTILITIES
BI
Calls
Cref
Err
Getsprite
Icon2C
Image Editor
Indent
Libcounter
Textra

ELECTRIC-11
DISK UTILITIES
Fixdisk
Format
Diskspeed
MD Backup
Showdisk
SID
Zap

" ELECTRICLOWN" Disks are nicely put together, with a lot of uncommon programs and utilities.......Phil South, AMIGA SHOPPER August '91

We have many more Disks available in this range, for full details see our catalogue disk.

FULL FRED FISH AND T-BAG RANGES AVAILABLE PLUS MANY MANY MORE.
SEE OUR CATALOGUE DISK

✲ QUALITY SELECTED P.D. ✲
✲ QUALITY DISKS - Usually Sony ✲
✲ QUALITY SERVICE - 1st Class Post ✲
*** Please allow 7 days for cheques to clear ***

CONTACT: PAUL or MARIA
FEN HOUSE, 90 Notley Road,
Lowestoft, Suffolk NR33 0UG
0502 ~ 566752
PROP : P. BLYTH
ALL CHEQUES/PO's payable to **ELECTRICLOWN**

PRICES

Electric Range..............£2.00 each
All other disks **1-5 ......£1.30**
6-10 ......£1.20
11-15 ......£1.10
16+ £1.00
ALL PRICES INCLUDE POSTAGE AND VAT

OUR FULLY MENU DRIVEN CATALOGUE DISK IS ONLY **70p** OR FREE WITH YOUR FIRST ORDER.
COMES COMPLETE WITH FULL DISK DESCRIPTIONS.

◄ Austel, Cornwall PL25 4YB
☎ 0726 68020.

STEREO SAMPLING TWO

Meanwhile in deepest Norfolk, MPH has been busy creating its own stereo sampling package called *The Monster Stereo Sampler*.

This nifty unit includes some extremely innovative features which will appeal just as much to hobbyists as professional users.

The sampler takes up only about a 100K of memory space, so 520ST owners aren't going to feel left out. You can take sound files from any CD, Hi-fi or Walkman and record right up to 75KHz.

Obviously the use of sampling at such high rates is offset by the amount of disk space that this requires. For example a 75KHz sample of about 40 seconds will take up most of the space on a 40Mb hard drive. MPH has surmounted this problem by including some excellent sample compression routines which enable you to squeeze that 75KHz sample down to just 7.5KHz.

Even at this speed there might still be some problems in terms of disk space. However, the Monster Stereo sampler can save large files over a number of disks, formatting as it goes.

Phillip Harman of MPH tells me that all the standard sampling effects and functions are included, along with some oscilloscopes, full volume control and cross fades. It'll be available by the time you read this at a price of £54.95.
☎ 0603 503382.

CUE THE BEAT

Cubase is the package which sequencer users turn to when they get annoyed with *Notator*'s space shuttle front-end. Evenlode Soundworks, which distributes the program in this country, has just announced the release of *Cubeat* 2, the chopped down version of *Cubase*.

Cubeat has fewer edit screens and processing facilities than its big brother, but version two now includes a DRUM EDIT program. This function enables you to create drum rhythms within *Cubeat* and then download them to your drum machine, thus removing the need to squint into a tiny LCD screen.

Cubeat 2 is available from Evenlode Soundworks, The Studio, Church Street, Stonesfield, Oxford OX7 .
☎ 0993 898484.

Andy Hutchinson

Andrew Hutchinson is the news editor on ST Format, *out every month.*

FASTEST DATABASE FOR UNDER £100?

The Germans consistently produce top quality packages, which, while being expensive, are certainly the best on the market (take a look at *Calamus* and *Notator*). A brand new German database is set to challenge the high price bracket of these products, without compromising on quality.

***1st-Base* is a fully relational database which takes up only 50K of memory space, meaning that 520ST owners can make just as much use of the program as their 1Mb friends.**

What's more it can be run as either a program or an accessory meaning that you can call it up from within any GEM-based program.

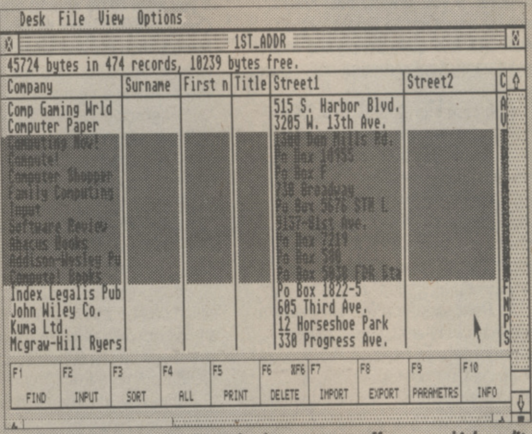
The program includes integrated calculating functions, mouse controlled re-design capabilities and multiple-line fields for large text inputs. A BASIC-like programming language means that generating reports is simple.

Importing and exporting is fully supported on *any* program. This is possible by means of a keyboard replay function; you simply click on the file you want exporting, then on a keyboard icon and the program will replay the sequence within the package.

Owners of the Atari Portfolio pocket computer will be pleased to hear that *1st-Base* can also be connected directly to their machine so that it can be run as a mobile workstation for your database files.

The program runs on any ST/STE/TT and in medium or high resolution.

The projected price of *1st-Base* is £98. The German company which produces it is currently looking for a British distributor, but you can get it direct from: Victor GmbH Software, PO Box 1510, D-2058 Lauenburg Germany.
☎ 01049 4153 52323.



45724 bytes in 474 records, 10239 bytes free.

Company	Surname	First n	Title	Street1	Street2	C
Comp Gaming Wrld				515 S. Harbor Blvd.		A
Computer Paper				3205 W. 13th Ave.		V
Computing Now!				1300 Don Mills Rd.		
Compute!				Po Box 10955		
Computer Shopper				Po Box F		
Family Computing				730 Broadway		
Input				Po Box 5676 STN L		
Software Review				9137-81st Ave.		
Abacus Books				Po Box 7219		
Addison-Wesley Pu				Po Box 590		
Compute! Books				Po Box 5038 FDR Sta		
Index Legalis Pub				Po Box 1822-5		F
John Wiley Co.				605 Third Ave.		N
Kuma Ltd.				12 Horseshoe Park		P
Mcgraw-Hill Ryers				330 Progress Ave.		S

• *The German-written* 1st-Base *database program offers some high quality features for less than £100.*

Supra

MODEMS

AMIGA/ATARI/PC MODEMS

Supra 2400 (2400 baud)	£120
Supra MNP 2400 (2400 baud error correcting)	£165
Supra 2400 Plus (The ultimated 2400 baud modem, 9600 baud throughput)	£199

HST MODEMS (9600/14400 BAUD) £595

Supra Modems are guaranteed for 4 years and are auto-dial, auto-answer and fully Hayes compatible. ***Prices include VAT.***

Free computer cable with every modem.

081-566-3639

SUPPLY SOLUTIONS,
PO BOX 2136, LONDON, W13 8QJ
Supra approved distributor • Open till 7pm

Spasoft Computer Services

Atari 520STE Golden Games Pack includes: 14 Top Games, First Basic, Neochrome, ST Tour & 50 Spasoft PD Titles RRP £821	£349
Atari 1040STE Golden Productivity Pack includes: 10 Top Games, Infants, Junior & GCSE Education Modules, Word Processor, Spreadsheet, Database, Art, Music & Programming Packages. Also Includes 50 PD Titles	£399
Amiga 500 Starter Pack 512K Ram	£289
Amiga 500 Crystal Games Pack includes: 1024K Ram, TV Modulator, PSU, 14 Top Games, Deluxe Paint II RRP £809	£389
Amiga 1500 Home Office Pack includes: 14 Top Games, The Works Business Software, Deluxe Paint II & 1084S Stereo Colour Monitor RRP £1790	£849
MPS1270 Ink Jet Printer For Amiga	£179
Atari Lynx Hand Held & Blue Lightning Game	£99
Atari Portfolio Pocket PC	£169
CBM CDTV & Indoor Sports Or Psycho Killer Game	£549
Sega Game Gear & Ninja Gaiden	£99
Amstrad DMP3160 Printer	£129
Sega Mega Drive & Altered Beast	£139
Amstrad PC3086SD + Printer + Ability + 12" Mono Screen	£449

Phone For Our Trade In Prices. Send SAE For Full Price List.
Make Cheques/PO's Payable To SPASOFT. Send To:
Spasoft (EQ),
123 Mason Avenue, Lillington, Lemington Spa,
Warwickshire, CV34 7QF Tel: 0926 413706
Personal Cheques May Require 5 Days To Clear.

CPC

- Classic fantasy game makes a first rate conversion
- Console axed but the Plus machines doing well
- Airborne arcade action bonanza due from US Gold

GX4000 GLOOM

Last week's news about Dixons chopping the GX4000 machine from its branches was pretty grim stuff. Just about the only consolation was the fact that the Commodore C64GS console got the chop too! (Sorry, Commodore fans).

It does mean that, for a while, at least, there should be some real GX4000 bargains out there in Dixons-land, but quite a few of you have been reporting ultra-cheap offers already.

So is this the beginning of the end for the Amstrad console? Rumour has it that Amstrad has about 300,000 of the things so far unsold – the company probably hasn't sold a tenth of that yet. Quite what's going to be happening to all those machines remains to be seen.

On a slightly more cheerful note, the Plus machines seem to be doing rather better – although Amstrad, as ever, won't give out any figures. Apparently the 6128 Plus is continuing to sell well in France, and the healthiness of the CPC market over there is vouched for by French software house Loriciels, which reckons that half of its sales across all formats are on the Amstrad!

Mind you, Amstrad France does seem to be a bit more on the ball compared to the UK arm.

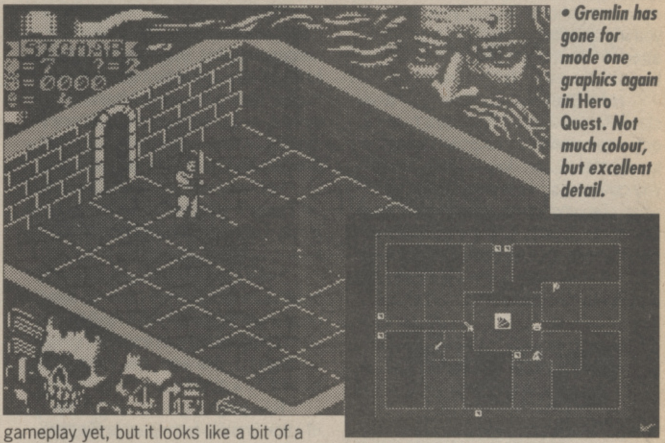
ARCADE TEMPTERS

US Gold is continuing to turn out arcade conversions, and coming up shortly will be *G-LOC*, an airborne blast in the *Afterburner* tradition.

Apparently the arcade machine has taken off (ho ho – sorry) in a big way. And although it's a bit like *Afterburner* in game style, playing it is quite a different experience, thanks to Sega's revolving arcade cabinet. You see, *G-LOC* refers to loss of consciousness due to excessive G-force…

Also coming up from US Gold is the *Bonanza Brothers*, another Sega arcade hit. The *Bonanza Brothers* are a pair of burglars who are faced with their biggest job ever: to clear out several large buildings while facing up to all sorts of hazards and traps. Needless to say, it's up to you to make sure they succeed.

I don't know much about the gameplay yet, but it looks like a bit of a cross between *Rick Dangerous* and *Super Mario Brothers*.



• Gremlin has gone for mode one graphics again in Hero Quest. Not much colour, but excellent detail.

• You can select to study a map screen, but it won't show you areas you haven't yet visited.

HERO QUEST

I know, I know. Role-playing is for spotty little oiks who spend their lives in their bedrooms and who don't have any friends, right?

Wrong. At least, as far as *Hero Quest* is concerned that is. Gremlin's idea seems a bit odd at first – a computer version of a boardgame? Hmm. Amazingly, though, it really does work – and very well, as a matter of fact.

You can take on the role of one of four adventurers: Rogar the Barbarian (he's well 'ard), Durgin the Dwarf (short, but a real nasty piece of work), Ladrin the Elf (a bit thin and weedy, but as sharp as they come) or Telor the Wizard (you don't have to do much when you can just throw spells at people).

The idea is to defeat arch-villain Morcar in any of a series of missions (further expansion packs are on their way, I'm told).

At the start of your adventure you find yourself plonked down in an isometric 3-D world of dark corridors, gloomy chambers and nasty beasts.

As usual with role-playing games, you take your turn then the enemy takes his. To move you throw two imaginary dice (the computer looks after this) and you can then move the number of

Continued on next page ➤

AMIGA, ATARI & PC SOFTWARE

The Tipster

This **HORSE RACING** software was used to select the 100/1 NORTONS COIN outsider in last years GOLD CUP. Data for this program requires the **RACING POST.** An **INTERNATIONAL** version is available for **AMIGA & ATARI** computers using the **DAILY MIRROR** for data on UK races.

The Punter

Let your computer **WIN THE POOLS** for you with our latest software. We have used the same sums that the **TIPSTER** proves can beat the odds to give you a better chance with on any pools coupon. The **AUSTRALIAN** version is included on the disk which also contains the **LATEST ENGLISH** leagues.

The Dogs

Using data from either the **DAILY MIRROR** or **RACING POST,** you can rate races over **HURDLES** and the **FLAT.** Very easy to use, this program will rate 5 races in under 1/2 an hour.

League Manager

This **NEW RELEASE** from **SIDMOUTH SOFTWARE** enables you to look after up to 16 teams in up to 5 leagues in ANY sport including **GOLF, FOOTBALL, DARTS, HOCKEY, POOL,** and many many more.

NCE READER SPECIAL OFFER **£24.95** inc VAT Postage & Packing

VISA

★★★ SATURDAY SERVICE ★★★

PHONE 03955 77884 any SATURDAY between 9 and 12 and ask for the LUCKY 15 Horses. If you win, send 10% of the winnings to SIDMOUTH.

Sidmouth Software
9 Church Street, Sidmouth
Devon EX10 8LY

Send £5.00 for a DEMO DISK

Telephone: 0395 577884

MarcaM LIMITED

62 Tenter Road
Moulton Park
Northampton
NN3 1AX
TEL: 0604 790466
FAX: 0604 647403

THE GENLOCK PEOPLE

SUPER VHS GENLOCK

At last, the Rendale Super - 8802 is available. As well as operating in a similar fashion to the standard 8802, the Super - 8802 also boasts the following:

- Super VHS both in and out
- Hardware Controlled Fades.
- Hardware Controlled Wipes.
- Cross Fade between Amiga and Video.
- Integral mode switching control.

RENDALE SUPER - 8802 - £599.99

Existing Rendale 8802 users can also upgrade. Please telephone to arrange a date to send your unit to us. We will require it for around two days.

RENDALE SUPER - VHS UPGRADE - £420.

◄ squares shown. Also in your move you are allowed one 'action' – you can attack an enemy or have a look for treasure (or traps, for that matter).

Hero Quest is a bit like the all-time classic *Laser Squad*, in that you can only see enemies in your line of sight, so you have to be pretty careful when you come to corners in corridors or when stepping into rooms. Unlike *Laser Squad*, you can't refer to a map of the playing area. At least, you can't to begin with. The map only builds up as you progressively explore the scenario.

Where *Hero Quest* really scores is with its multi-player option. With four heroes available, you can play with up to three other people. You can't have human versus human confrontations as you can in *Laser Squad*, but you can choose to help or hinder your friends – the competitive element is still there.

For longer-term interest you can save your character at the end of each game, together with any loot and weapons he's collected.

Hero Quest isn't hugely colourful, but it does have plenty of detail and the creatures and heroes are readily identifiable with the ones in the boardgame. It is also very atmospheric, helped by a great soundtrack.

Role-playing games do get plenty of stick (mostly from people like me), but *Hero Quest* comes pretty close to changing my mind. Now, if you just substituted some rock-hard guys with laser cannons and exo-skeletons for these sword-and-sorcery types, and set the whole thing in an empty space-station instead of gloomy old dungeons, I reckon role-playing would really be brought up to date.

Still, barbarians, dwarves, elves and wizards have their fans too. If you're one of them, buy *Hero Quest*. It really is an excellent game. How much? £10.99 on cassette, £15.99 on disk.

Rod Lawton

Rod Lawton, editor of Amstrad Action, *ios currently looking for a new member of staff. If you have writing experience, write to him here at* Express.

HOW TO SUCCEED NARCO POLICE

Dinamic's *Narco Police* looked like it ought to be good, but managed to defy all my attempts to get into it. It's a kind of strategic *Operation Wolf*, with loads of tunnel-exploring, charge-setting and drugs-busting.

Anyway, if you're getting nowhere fast (like me), but you still determined to plug away (not like me), try these password cheats:

- **To get no enemies, type NOENEMIG into your Personal Intercom Unit.**
- **If you want them back again (it can get lonely in those tunnels), type COMMENZAR.**
- **If you run out of ammo, type MUNICION.**

C64

- **C64 games console in drastic price slash crisis**
- **Summer madness hits games market, but no Arnie**
- **Endless lives for classic games with our hot pokes**

THE END OF THE GS?

So, it has happened. Dixons is selling the C64GS for as little as £29.99, complete with the bog-standard four game cartridge as reported in *Express* last issue.

So, was all the hype and ceremony which preceded the launch of the console a complete waste of time? Will the GS follow in the footstepsof the C16, Plus 4, and C128?

No, basically. The GS is indeed losing its foothold in the market place, and one suspects that the £30 sell-off is merely a spoof to be rid of unwanted stock. However, we can expect the GS to hang around at least until the end of this year.

Already Ocean and System 3 release most of their major titles on cartridge, and software standards are improving immensely, so the GS will still go down as the saviour of the C64... or, at least, it should, in my opinion.

Ironically, Commodore has recently released its newest C64 bundle, called Playful Intelligence. For your £99 (yes, you heard me correctly) you get a C64, joystick, and a four-game cartridge. This puts the C64 in direct competition with the GS – why buy just a console when you can buy a *proper* computer?

Well, that's the obvious sales pitch.

HERE COMES SUMMER

As I mentioned recently, the usual plethora of licensed software is nearly upon us, but don't expect *Terminator II* just yet – the film comes out in August in this country, and the game will probably only see the light of day sometime in December.

Here's a brief round up of what else the summer has to offer:

Hudson Hawk: Ocean has also acquired the rights to the new Bruce Willis film *Hudson Hawk*, and the game's release will no doubt co-incide with the video release. I haven't had chance to see the film, but reports from the States are unanimous; it's rubbish.

Smash TV is due out soon from Ocean, and is based on the popular Williams arcade game. I had a

FEED YOUR ST!

MEMORY UPGRADES

STE KITS SIMM OR SIP TYPE	NORMAL PRICE	WITH 512K TRADE IN	WITH 1024K TRADE IN
512K TO 1024K	£22.00	-	
2 MEGABYTE	£83.75	£73.75	£63.75
4 MEGABYTE	£160.00	£150.00	£140.00

All above kits come c/w an illustrated instruction booklet. 2 and 4 Megabyte kits come c/w Free multitasking software. Free fitting available on all above kits

STF(M) KITS	Price
Solder in 1Mb Upgrade Kit	£30.00
1 Megabyte board Expands to 2.5Mb	£68.00
2.5 Megabyte Plug in Upgrade	£115.00
4 Megabyte Plug in Upgrade	£225.00

EMULATORS

PC EMULATORS		
PC SPEED hardware emulator for ST.Runs 4 times faster than standard PC. Full I/O compatibility.	Supplied	£90.00
	Fitted	£120.00
AT Speed 16Mhz 286 Processor Norton 8.3.	Supplied	£220.00
	Fitted	£245.00
AT Speed STE adaptor		£25.00
Spectre GCR MAC Emulator (including ROMs)	Supplied	£320.00

CHIPS Etc.

16x256Kx1 Dram Chips	£24.00
16x1Mbx1 Dram Chips for upgrading TCT and Frontier Boards	£70.00

Disk Drives

Internal double sided drive upgrade with spacers	Supplied	£45.00
40Mb Hard Drive with DMA Out, Internal PSU, 17mS access time, Quiet running		£320.00

All goods carry a 14 day returned-as-new money back guarantee.
All memory upgrades carry a 2 year warranty against faulty manufacture.

HOW TO ORDER

Prices Include VAT.

Telephone orders and enquiries welcome on: 081-777 0751
Please make cheques/postal orders payable to: HCS
35 HARTLAND WAY, SHIRLEY, CROYDON, CR0 8RJ.
Goods normally despatched within 2 days of receipt. Trade-in paid as a refund

CHOICE Software

★★ DISKS DISKS DISKS ★★

3.5" DSDD 135 TPI ' SONY/KOA' BULK DISKS

Pack 10 (inc Case & labels)	£4.99
Pack 10 (inc labels)	£4.25
Pack 25 (inc labels)	£10.09
Pack 50 (inc labels)	£19.66
Pack 100 (inc labels)	£37.19

3.5" 'SONY' DS HD BULK DISKS

inc Case & Labels	£12.99

★ ★ SPECIAL OFFER ★ ★

Pack 25 Disks + 80 Capacity Box	£15.75
Pack 50 Disks + 80 Capacity Box	£24.99
Pack 25 Disks + Banx Stackable Box	£19.99

(Please add £1.80 for 1st Class P&P on all disk orders)

NOTE: ALL DISKS ARE 880K AND 100% CERTIFIED ERROR FREE & FULLY GUARANTEED

★ ★ ACCESSORIES ★ ★

3.5" Disk Boxes, Lockable with Perspex Lid,

12 Capacity Viz 'see through'	£0.99
40 Capacity Box	£5.49
80 Capacity Box	£6.99
100 Capacity Banx Box (stackable)	£11.99
5.25" x 50 Capacity Disk Box	£5.49
14" Swivel/Tilt Monitor Stand	£10.99
Universal Printer Stand (80 Col.)	£6.99
Mouse Mats (Anti Static)	£2.99
AMIGA/ATARI Dust Covers	£2.99

RIBBONS (Black unless otherwise stated)

Star LC10	£2.99
Star LC10 Colour	£6.99
Star LC24	£4.59
Star NL10	£4.33
Star LC200	£7.99
Star LC200 Colour	£14.99
Citizen 120D	£3.17
Epson LX80	£1.99
Epson LX800	£7.99
Epson MX/FT/FX 80	£2.76
Panasonic KXP 1080/1090	£3.20
Commodore MPS 801	£3.99
Amstrad 8256	£3.43
Amstrad 9512	£4.25

Ribbon Re-ink, SAVE CASH!!!! SAVE THE WORLD (OZONE FRIENDLY)

Revitalise old ribbons for ONLY	£12.95
3.5" Disk Cleaning Kits (inc liquid)	£2.49
5.25" Disk Cleaning Kits (inc liquid)	£2.49
5.25" Disk Notcher	£4.99

144 London Road,
Highfields, Sheffield S2 4LT
Tel/Fax: (0742) 555894

PLEASE MARK ALL ORDERS 'NCE'
Please make cheques/PO payable to CHOICE SOFTWARE, or ring the Credit Card Hotline (Access/Visa).
Open Mon - Sat. 9.00am - 5.30pm
ALL PRICES INCLUDE POSTAGE (UK only) UNLESS STATED.
CALLERS WELCOME

512K AMIGA MEMORY EXPANSIONS, DOWN IN PRICE!!!
4 Chip Design, Disable Switch

	RETAIL	OUR PRICE!!
Real Time Clock	£49.50	£34.99
Memory Only	£46.95	£29.99
AMIGA BOOTBLOCK PROTECTOR		£17.99

★ ★ JOYSTICKS/MICE ★ ★

Star Probe	£14.99
Cruiser	£10.21
Quickjoy 6 Jet Fighter	£13.95
Quickjoy Top Star	£23.95
Quickshot Deluxe Turbo	£10.99
Competition Pro Extra	£16.49
Converta (Table/Hand Held)	£10.21
Micro Jet	£10.95
Super Jet	£12.95
NAKSHA MOUSE, Suits AMIGA/ATARI, 288 DPI, inc Mouse Mat/Holder, 2 Year Warranty & FREE OPERATION STEALTH!!	£29.99
SQUIK mouse (NAKSHA RE-BADGED)	£19.99
CONTRIVER TRACKBALL, FOR THE AMIGA, PC and ATARI, (Please state which)	£32.49

AMIGA PUBLIC DOMAIN!!!
UTILITIES/GAMES £1.50 PER DISK
DEMOS £1.25 PER DISK (Discounts for 10+) please add 60p P&P to all orders. ALL ORDERS PLACED BEFORE 4.00pm SENT SAME DAY.
100'S OF TITLES TO CHOOSE FROM!
9 x 6 SAE brings a FREE Catalogue Disk!
MORE THAN JUST A LISTING, IT CONTAINS:- FREE UTILITIES, DEMOS & SUPERB ARTWORK. WE MAY NOT BE THE BIGGEST PD LIBRARY, (YET!) THAT YOU HAVE SEEN, BUT WE BELIEVE WE OFFER THE BEST VALUE AND THE LATEST SOFTWARE AVAILABLE. WATCH THIS SPACE....

ATARI ST/E OWNER????
Quality software at a fraction of the retail price! (from only £2.95) . A full range of Budgie ST/E Licenceware (78+ Disks) Games, Utilities, Demo's, Now in stock! S.A.E (9 x 4 min) or ring for catalogue and price list.

PLUS....BOOKS, CABLES, PRINTERS, COMPUTERS, DRIVES, AND OF COURSE AN EXTENSIVE RANGE OF SOFTWARE. ALL AT DISCOUNT PRICES!!!

1st for Value 1st for Service 1st for Choice

chance to watch John Rowlands (of APEX fame) playing it in an arcade, and it looks incredible (as does the C64 version).

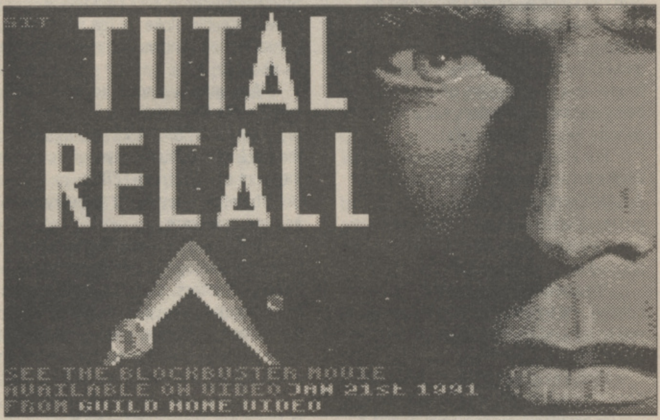
Two players make their way through a series of different rooms where they must wipe out dozens of enemy warriors. The whole game is viewed like a TV program – hence the name – with a blood-crazy audience watching to enjoy the slaughter.

The arcade version boasts two joysticks for each player (one for movement and one for weaponry), but I'm not quite sure how Ocean has accommodated this.

Bonanza Bros: One of the many games to catch my eye was *Bonanza Bros* from Sega (currently being converted by US Gold). The game is a split-screen arcade adventure, with two intrepid burglars attempting to recover some swag from a designated building.

There are guards and security systems to hinder their progress, but our heroes are equipped with all manner of weapons and gadgets.

The game's real asset is its graphics; colourful, beautifully animated and above all *very* jolly and *very* original, especially in the bobbing heads department.



• *Arnie's last blockbuster,* Total Recall, *translated onto the C64 quite badly.* Terminator II: The Judgement Day, *reputed to be the most expensive film ever made, has great potential... can Ocean deliver the goods?*

First Samurai: Licences and conversions aside, this is a game to look out for; currently being developed by Vivid Image (of *Hammerfist* and *Time Machine* fame), it features a Samurai with a huge repertoire of moves traversing a vast landscape. The usual enemies are evident, along with a few surprises (giant snakes for example).

Little is known about it presently, but I would guess that John Twiddy is coding the shebang, while Hugh Riley (or even Dokk) is performing the necessary graphic tricks. I'll keep you posted – the game is going to be BIG.

Outrun Europa is due any day now. I don't know much about the conversion, but chances are it has been handled by Probe, who successfully converted *Turbo Outrun* and *SCI* onto the C64. It's fast and furious action through the streets of European cities – you know, 1992 and all that.

Incidentally, *Outrun Europa* was to be the second of the *Outrun* games, but was pushed aside by US Gold in favour of *Turbo Outrun*.

MAKE MY DAY

I like receiving lots of mail, as it makes my housemates think I'm popular, so if you have any hints, tips or pokes, or even if you just want a really good whinge about anything C64-related, write to me here at *Express*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

Andrew Roberts

CLASSICAL POKES

I have been playing far too many old games over the past few months, owing to the lack of any new and interesting software at this time of year. So, here is a hefty bunch of reset POKEs for some of those classic games.

In each case the POKE is for infinite lives, and the SYS command restarts the game:

● ***Action Biker***
```
POKE 19287,47:SYS 13312
```

● ***Attack of the mutant camels***
```
POKE 11018,165:SYS 4096
```

● ***BMX Simulator***
```
POKE 13937,0:SYS 4096
```

● ***Chuckie Egg II***
```
POKE 30895,165:SYS 18698
```

● ***Ghostbusters***
```
POKE 32425,169:SYS 24576I
```

● ***Ball***
```
POKE 20669,189:SYS 16939
```

● ***Kane***
```
POKE 6638,181:SYS 3072
```

● ***Monty On The Run***
```
POKE 9510,173:SYS 2064
```

● ***Outrun***
```
POKE 34711,189:SYS 38045
```

G B SYSTEMS LINK
FOR ALL YOUR COMPUTING NEEDS

DTL PC COMPATABLE COMPUTERS

All systems are based on 14" SUPER VGA COLOUR MONITOR, 40Mb IDE Hard Drive, Mini Tower Case, 102 Key Keyboard, Mouse, DOS 5, WP, DB, SS Software.

COMPUTER	RAM	
386 16Mhz	1Mb	£ 995.00
386SX 20Mhz	1Mb	£1195.00
386 25Mhz	1Mb	£1395.00
386 33Mhz	4Mb	£1795.00
486 25Mhz	4Mb	£2195.00
486 33Mhz	4Mb	£2295.00

DTL are a PC manufacturer that supply top quality products at competitive prices. All the PC systems are 100% IBM PC compatable and are built to the highest specification possible.

DTL as a company have been around for more than 5 years and supply machines to large corporations. We can supply the whole range of DTL PCs setup to your own individual specification.

THE NEW AMIGA A500
Cartoon Capers Pack £399.00

Inc. Captain Planet, Bart Simpson, Lemmings Games
Plus The G B Systems Pack, More Games, Word Processor, Data base, Spread Sheet, Joy Stick, Mouse Mat.

We Also Supply :- MONITORS & PRINTERS
Disks, Disk Boxes, Printer Ribbons, JoySticks, Mouse Mats, Mice, Leads, Connectors. Plus hundreds of other items.

COMPUTER REPAIRS

Amstrad: 464,664,6128, PCW Range, 1512, 1640, 2000 & 3000 Range
Atari: ST520,1040
Acorn: BBC,Master & Arch
Commodore: 64,128,A500,2000 & 3000
Sinclair: 48K,128K,+2 & +3
IBM & Compatibles
Monitors & Printers

Please Phone For Prices

Save hassel and send your computer for repair by post

VISA
MasterCard

G B SYSTEMS LINK
86 WALTON ROAD EAST MOLESEY SURREY KT8 ODL
TEL: 081 979 5638 FAX:081 941 4440

150 space public car park at rear of shop

SPECTRUM

- First rate Speccy package at a second-hand price
- Secret functions of the missing keypad revealed
- Play against major league players in *RBI Baseball*

VERITABLE SNIP

If you want to get a new Spectrum or upgrade your aged rubber key model to the comparatively sleek and sexy Plus 2, now could well be the time to buy.

A recent excursion into the local John Menzies revealed a startling discount on the Plus 2 Action Pack (that's the Plus 2, light gun and six games). The shop was selling it for £79.99, which is practically half the standard Amstrad figure.

With this kind of price tag attached, the pack represents brilliant value for money, undercutting most second-hand prices and is a complete bargain in anyone's estimation. Write in and tell me if you see discounted Speccies anywhere else in the high street and let's save money!

POKES FOR INFINITY

It's that amazing Alan Johns person again with some more of his Multiface pokes. When does this man find the time for mundane necessities like eating and sleeping? Thanks once again to him.

Knightlore	53567,0	Lives
Cerius	65535,0	Lives
Bigfoot	55189,0	Lives
Android 1 & 2		
	52249,24	All 3 give
	52250,32	infinite
	53897,0	lives
Hyperlane	48938,52	Lives

STRIKE

Baseball's always looked like a game of rounders played in silly clothes to me, but Domark is hoping for a generally more positive response when it releases *RBI Baseball* soon.

It's another one of the company's Tengen coin-op conversion jobs which tend to be brilliant, like *Escape From the Planet of the Robo Monsters* but sometimes throws up a bit of a stinker like *Stun Runner*.

The graphics look like they'll be every bit as impressive as *Hardball*, that other Speccy baseball offering, and the game scores numerous brownie points with realistic detail, including using all 26 American pro baseball teams.

It should set you back £9.99 when it hits the software shop shelves soon.

CUSTOMER COMPLAINTS

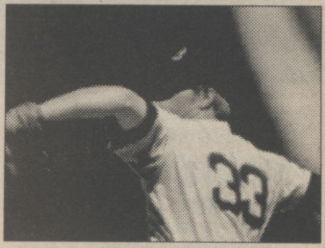
A Mr A Fletcher of Wetherby has written to me about a problem he is having with Garner Designs, one time organiser of the excellent Plus Three Users Group and now publisher of *Sinclair & SAM Computing*. I've plugged it countless times in the past for its varied and usually excellent Speccy-related services which always proved reliable and good value for money.

Mr Fletcher was a member of the old Plus 3 User Group and, 'very happy with the service'. From December last year however he tells me he has, 'had nothing but trouble trying to get disks and PD software from them' and goes on to give lots of examples of cheques being cashed and orders not arriving despite lots of phone calls.

For example, he's been waiting 10 weeks for issue one of the new *Sinclair & SAM Computing* diskzine extra to arrive, despite the fact that his cheque was cashed in early May and he's phoned up twice to enquire abut it.

'You used to plug them in your column', he writes, 'so may I now call on you to try and find out what on earth is going on.'

Well, I'm going to try and find out what's going on. If you've experienced similar problems please write in and if anyone from Garner Designs would like to respond they're more than welcome.



• Pit your skills against 26 American Pro Baseball teams in Domark's **RBI Baseball.**

SECRET KEYS UNLOCKED

Have you ever lain awake at nights wondering what the Keypad port on your Spectrum 128K is for? Well a knowledgeable bloke by the name of Daniel Wyness knows and wrote in to tell us about it:

'A keypad is a small keyboard with some extra keys available for editing programs in 128K BASIC. It plugs into the back of the Plus 2 computers and in the front of Spectrum 128Ks. Unfortunately, they didn't sell very well and are quite rare.

'But you don't even need a keypad to take advantage of all the extra features it offers. You can duplicate the functions of the keypad simply by using the keyboard. Here is a list of all the extra features and how to get them whilst editing a program in 128K BASIC:

- *Move the cursor as far as the beginning of the next word:* Extended mode, then shift and J

DIGITAL DREAMS
PRESENTS
The Game Soundtracks Collection

Mixing By
Simon Palmer
Produced By
Martin Baker
Digital Dreams 1991©

All Copyrights in the recorded works reserved. No lending! Unauthorized duplication, lease, public performance and broadcast prohibited.

THE VERY BEST OF
GREMLIN®

DIGITAL DREAMS
PRESENTS
The Game Soundtracks Collection

Mixing By
Simon Palmer
Produced By
Martin Baker
Digital Dreams 1991©

All Copyrights in the recorded works reserved. No lending! Unauthorized duplication, lease, public performance and broadcast prohibited.

THE VERY BEST OF

NOW AVAILABLE ON CD!!
£7.99 EACH INCLUDING POSTAGE AND PACKING
£14.99 FOR THE PAIR

SEND CHEQUE OR POSTAL ORDER MADE PAYABLE TO DIGITAL DREAMS TO
DIGITAL DREAMS,
31 BERWICK STREET, SOHO, LONDON, WC1
PLEASE ALLOW 28 DAYS FOR DELIVERY. TRADE ENQUIRIES WELCOME

- *Move the cursor as far as the next space to the left:*
Extended mode, then I
- *Move the cursor up ten lines:*
Extended mode, then P
- *Move the cursor down ten lines*
Symbol shift and I
- *Move the cursor to the start of the BASIC line:*
Extended mode then Symbol shift and 2
- *Move the cursor to the end of the BASIC line:*
Extended mode, then M
- *Delete the character the cursor is on:*
Extended mode then shift and K
- *Delete as far as the next space to the left of the cursor:*
Extended mode then E
- *Delete from the character the cursor is on and as far as the next space to the right:*
Extended mode, then E
- *Delete from the character the cursor is on, as far as the next space to the right: –*
Extended mode then W
- *Delete from the left of the cursor the beginning of the line:*
Extended mode then K
- *Delete from the character the cursor is on to the end of the line:*
Extended mode then J'

Thanks to Daniel for that sizeable mound of revealing info. If you have any Speccy tips or secrets to uncover send them to me, Robin Alway at *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW.

Robin Alway

PC

- **Windows – new versions, new interfaces**
- **Cracks in the designs of Notebook computers**
- **Elvira's two in *Elvira 2: Cerberus* set for October**

WINDOWS NT, 3.1 & 4.0

Confirmation has been received that, next year, Microsoft will be shipping Windows NT, its 32-bit New Technology operating system with only Windows and DOS programming interfaces – OS/2 is being shunned.

Previously, Microsoft said the New Technology (NT) kernel would be the core component of OS/2 3.0 – a pure 32-bit version of OS/2 that would run code written for DOS, 16-bit and 32-bit Windows, and 16- and 32-bit OS/2 applications programming interfaces (API).

NT mode will include security, 32-bit internals and features that include the other capabilities promised for OS/2 3.0 such as 'asymmetrical multitasking'.

Microsoft has plans to provide a future 32-bit Windows API in enhanced mode under DOS. Windows NT's user interface will include the functionality to be found in Windows 3.1 – an upgrade to DOS/Windows that is scheduled to appear later this year.

The company has not yet decided whether Windows NT will be sold separately or be packaged in the same box as DOS/Windows.

Microsoft is also working on a further refinement that executives sometimes refer to as Windows 4.0, which will add other new features. No details yet, however.

☎ Microsoft can be contacted on 0734 500741.

TULIPS IN AMSTER-LAN

Tulip Computers recently announced that it has signed a worldwide licensing agreement with Microsoft to supply Microsoft LAN Manager and DCA/Microsoft Communications server.

Both products will be available from Tulip-authorised dealers from August. Tulip believes this agreement is a crucial move in providing a complete solution to its customers' networking problems.

☎ Contact Tulip on 0293 562323.

NOTEPADS CRACKING UP

Notebook computers – trendy, yes, but are they all they're cracked up to be?

Unfortunately, many buyers and dealers report fractured cases, port doors that break or pop out and displays that fail because of the

Continued on next page ➤

DOS 5 CORNER: SECONDARY BUFFER CACHE

Buffers. No not the Chelsea Pensioner kind but those handy thingies that help smooth the performance of your PC.

All very common but not too many people are aware of the Secondary Buffer Cache (SBC) that speeds up your PC. Handy if you don't own a SMART drive disk-caching program or something similar.

When a program requests part of a file stored on disk, DOS 5 provides the program with the information requested. If there is a secondary cache, DOS 5 then stores the next portion of the file in the secondary cache.

When the program requests the next portion of the file, DOS 5 supplies the information more quickly from the cache than it could do from the hard disk.

SBCs can speed up program loading and the operation of disk-intensive programs such as word-processors and compilers.

So, for those of you who don't own a disk-caching program, in your Config.Sys file, where you may have,

```
BUFFERS=30
```

for example, add "8" (the normal SBC figure) to the end of the line to access the

TERRABYTE

TERRABYTE

THE MEMORY PEOPLE
6A, CHAPEL WAY,
BOTLEY, OXFORD, OX2 9LX
TEL: (0865) 794848
FAX: (0865) 728761

TO ORDER: SEND CHEQUE/PO/ACCESS NO./ BARCLAYCARD NO. TO:
Terrabyte Source Memory at Commodity Prices. Prices can change without notice

Other Memory Upgrades Available: IBM, AST, ZENITH, COMPAQ, NEC, APPLE, AMIGA, EPSON, HP, OLIVETTI, SUN, NEXT, AMSTRAD and many more

★ SPECIAL OFFER ★
BUY 4Mb OF 80n/s SIMMs
>> FOR ONLY £120.00 <<
FOR THIS MONTH ONLY

TOSHIBA LAPTOP MEMORY

T1000se 2Mb Kit MT8312	£175.45
T2000sx 4Mb Kit MT8314	£395.00
T2000sx 8Mb Kit MT8315	£722.00
T1200xe 2Mb Kit MT8306	£105.65
T1600 2Mb Kit MT8302	£109.45
T3100e 2Mb Kit MT8341	£93.40
T3100sx 2Mb Kit MT8308	£93.40
T3100sx 4Mb Kit MT8310	£253.19
T3200sx 2Mb Kit MT8307	£104.30
T3200sx 4Mb Kit MT8309	£253.19
T3200 3Mb Kit MT7137	£170.75
T5100 2Mb Kit MT8301	£98.95
T5200/8500 2Mb Kit MT8304	£98.95
T5200/8500 8Mb Kit MT8313	£555.00

MATHS-COPROCESSORS

80287-10MHz	£68.00
80287-12MHz	£75.00
80387SX-16MHz	£86.00
80387SX-20MHz	£99.00
80387DX-20MHz	£149.00
80387DX-25MHz	£149.00
80387DX-33MHz	£149.00

BUY YOUR MEMORY AT TRADE PRICES

✻ EXPRESS DELIVERY
✻ 5 YEAR GUARANTEE!!

SALES HOTLINE 0865 - 794848

INDUSTRY STANDARD DRAM MODULES

DIL RAM
Standard memory chips

	70ns	80ns	100ns
64K x 1	--.--	--.--	0.98
64K x 4	--.--	1.09	0.95
256K x 1	--.--	1.09	0.95
256K x 4	--.--	3.25	3.12
1Mb x 1	4.09	3.25	3.12
1Mb x 4	--.--	18.00	--.--

"VIRUS FREE" The 100% solution - PHONE NOW!

SIP's & SIMM's

	60ns	70ns	80ns	100ns
256K x 9	15.00	13.50	10.50	10.05
1Mb x 9	37.75	33.50	32.00	--.--
4Mb x 9	--.--	--.--	145.00	--.--

IBM PS/2 - PLEASE RING FOR DETAILS

FULLY POWERED MOTHERBOARDS

RAM	386sx-16	386sx-20	386sx-25	386sx-33	486-25
OK	£205.15	£235.50	£399.85	£499.25	£1200.15
1Mb	£237.15	£267.50	£431.85	£531.25	£1232.15
2Mb	£269.15	£299.50	£463.85	£565.25	£1264.15
3Mb	£301.15	£331.50	£495.85	£595.25	£1296.15
4Mb	£331.15	£361.50	£525.85	£625.25	£1326.15

>> Buy board with 4Mb RAM and get Co-Proc at cost<<
>>i.e. 386sx-16MHz with Co-Proc at £411.15<<

I/O CONTROLLER CARDS

8 Bit 2S, 1P, 1G	£11.25
16 Bit IDE 2FDD 2HDD	£13.20
16 Bit IDE 2FDD, 2HDD, 2S, 1P, 1G	£27.30

GRAPHICS CARDS

Trident 16Bit 1Mb SVGA (1024 x 768 256 colours)	£85.00
Trident 16Bit 512Kb SVGA (1024 x 768 in 16 colours) (expandable to 1Mb)	£75.00
Oak 16Bit 256Kb VGA	£45.00

FLOPPY & HARD DISKS

1.44Mb 3.5"	FDD	£46.00
1.2Mb 5.25"	FDD	£48.00
Seagate		
ST157A	44Mb	£160.00
ST1102A	84Mb	£270.00
ST1144A	125Mb	£340.00
ST1162A	143Mb	£470.00
ST1201A	177Mb	£520.00
ST1239A	211Mb	£550.00

All drives state formatted capacity

NEW!! NEW!! NEW!!
SANYO NOTEBOOK MEMORY
2Mb KIT FOR ONLY £149.95
IBM NOTEBOOK MEMORY
L40SX NOTEBOOK - 2Mb
ONLY £199.95 While stocks last

EXPANDED MEMORY

>> EVEREX BOMBSHELL <<

Everex Maxi Magic (XT-8Bit)

512K	1Mb	1.5Mb	2Mb
£68	£90	£108	£125

Everex RAM 3000 (AT-16Bit)

1Mb	2Mb	3Mb
£105	£140	£180

Everex RAM 8000 (AT-16Bit)

2Mb	4Mb	6Mb	8Mb
£250	£325	£400	£475

Access
Allow 7 days for delivery
Phone us with your order 24 hrs
VISA

ALL PRICES EXCLUDE P&P AND VAT

◄ flimsiness of their plastic casings.

Many popular notebooks, including Compaq's LTE 386s/20, Sharp's 6220, and AT&T's Safari, suffer from these problems. Some problems are merely annoyances, while others make the machines unusable.

According to American magazine, *InfoWorld*, a major computer dealer in New York said several Sharp Electronics Corp 6220, Texas Instruments Inc Travelmate 2000, and AT&T Safari notebooks have been returned with nonfunctioning displays.

The magazine reported that, "the panels become crushed in the process of overstuffing a briefcase. Outside, the casing is intact; inside, the components are damaged."

InfoWorld's Test Centre also found that the port doors on a TI Travelmate 2000 popped out constantly.

A Los Angeles-based dealer reported problems with the construction of the Sharp machine, including cracked hinges on the display case. But he said it was a common problem, and he'd seen many notebook computers – particularly inexpensive clones sold by tiny firms – returned because of cracked hinges.

Compaq is no stranger to problems with cracked cases. Its LTE and LTE 286 models suffered so badly from cracked cases that one corporate computer buyer said he returned 250 cases on the first 200 machines his company bought.

"The first cracks would appear around the diskette drive, followed by hinges, joints, thin sections – everywhere. In time, the unit of a frequent traveller would self-destruct. Users were advised to be gentle and use tape to hold their units together."

Compaq Computer Corp has subsequently offered to replace the cases for free, and a spokesman for the company said they had taken care of the problem on its386s/20 models.

A Compaq official acknowledged that it's difficult to build lightweight notebook-sized computers that can withstand rugged handling:

"The original Compaq portable had a Winchester drive mounted to rubber bumpers," he said. "You don't have the same shock absorbing materials and dampers in notebooks."

All of which begs the question – what price fashion?

ELVIRA'S FRONT BACK!

To be released by Accolade in October, *Elvira II: The Jaws of Cerberus* requires you to rescue the fair maiden (!), held captive in a gigantic film studio, by the gruesome Cerberus, a monstrous three-headed demon.

Taking place on three film sets you will have to make use of certain elements of the studio to succeed. Visits to the wardrobe and make-up departments are essential, for example.

Elvira II promises more blood curdling graphics (depicting graveyards, catacombs, a mad scientist's lab and a Victorian house) and spooky sound.

☎ Contact Accolade on 081-877 0880

Paul Rigby

MACINTOSH

- **Whatever happened to Quark *EXpress* for NeXT?**
- **Buy eight Macs IISIs and get a Classic for free**
- **Latest upgrade of Adobe *Photoshop* announced**

RUMOURS...

● Apple subsidiary Claris has said that it is considering developing products for the Windows platform on IBM-compatible PCs.

This is actually quite a positive move from the Macintosh point of view – the more applications which are available on both PC and Mac, the more likely businesses are to start regarding the Macintosh as a computer which employees can use (at the moment there are a horrifying number of companies who will only buy PC compatibles, and refuse to allow their executives buy Macs).

● Mosaic computers, an Apple authorised dealer based in Warwickshire, has announced that it has been appointed by NeXT computers as a NeXT centre for the Midlands.

According the Shaun Thomson, the company's general manager, "NeXT machines are a natural extension to the Apple range. For professional users who need high power, the NeXT takes over where the Apple Mac leaves off."

Quite what Apple thinks of this remains to be seen, but it is quite likely that we'll be seeing more and more Apple dealers diversifying as rumours that the company will set up some sort of high street retail outlet in the near future become firmer.

While the NeXT can be seen as a logical step for these companies, observers have commented that the machine needs rather more than its current 8,000-odd user base in the UK before software developers will begin to produce serious-level software for the machine.

For example, although Quark is still apparently developing *XPress* for the NeXT as well as for Windows, the only announcements it has made recently relate to the Windows version – the company has become strangely quiet on when the NeXT version is expected.

PRODUCT NEWS

Ricoh UK, the scanner manufacturer, is sponsoring this year's Rugby World Cup. And to tie in with that, Heyden and Son is offering anyone who purchases a scanner between July 1 and September 15 the chance to win tickets for various of the games.

TESTBOOM Ltd.

PC Compatibles

286/16	*from* **£630**
386SX/16	*from* **£880**
386DX/25	*from* **£1100**

486 prices too volatile P.O.A.

All above 40Mb HD MVGA DOS 4.01

For all your 16 Bit requirements try me for the best quotes.

520 STE	**P.O.A.**
1040 STE	**P.O.A.**
TT2, 408	**P.O.A.**
Amiga 500	**P.O.A.**

TOTAL SOLUTIONS PROVIDED FOR ALL H/W

Prices valid for 28 days after publication date.

TESTBOOM Ltd. 9 Railway Road, Ormskirk, Lancs. L39 2DN
Weekends or After Hours

Tel: 0695 571605
Tel: 0695 579106
Fax: 0695 571606

Please Ring Before Calling.

Prices do not inc. VAT and Delivery.

In addition, the winner of the two Final tickets will also receive a weekend for two at a major London West End hotel. There are also a Ricoh camera and Ricoh Rugby T-shirts for the runner-up prizes.

If you're about the buy a scanner, and you fancy the idea of watching 30 blokes running around in the mud, give Heydn and Son a ring on 081-203 5171.

Those of you in the market for vast numbers of Macs (I'd settle for just one, if you're listening, Apple…) might be interested in an offer from Callhaven.

If you buy eight Mac IIsis, they'll give you a Mac Classic 2/40 free. And it gets better: buy five IIcis and you'll get an LC 2/40, or buy just three IIfxs and you can have a free Mac IIsi 2/40.

Your free machine(s) will arrive in the month following the shipment of your order.

☎ Callhaven is on 071-410 9191.

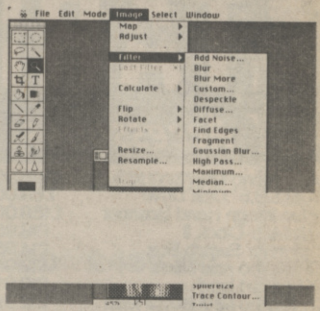
PHOTOSHOP 2.0

Adobe has announced version 2.0 of its colour image-retouching software, *Photoshop*. Although there are two main contenders in this market – Letraset's *ColorStudio* is the other – *Photoshop* is the acknowledged leader, and the upgrade has been eagerly awaited by the graphics community.

The original version took the Macintosh community by storm: suddenly you didn't need to hire a Quantel Paintbox at £300 plus an hour to produce professional photo-montages; all you needed was £900 or so (and, of course, your trusty Macintosh).

With its numerous filters and effects, *Photoshop* can be used for everything from photo-montaging to scanned image retouching. Now, version 2.0 includes some new painting tools as well as the feature most requested by current users – the ability to edit images in CMYK (Cyan, Magenta, Yellow, Black) mode. Previously, images had to be edited in RGB (Red, Green Blue) mode and then converted to CMYK for output to film, in order to be printed.

This introduced the problem that an image viewed in RGB mode bears not much resemblance to one actually printed as CMYK, so the new feature in version 2.0 is a tremendous improvement.



• Photoshop *version 1 already has enough features to keep designers (and the more malicious photo-tamperers amongst us) happy for months. Version 2 promises to be even better.*

Version 2.0 is fully System 7-compatible, although it only takes advantage of Publish – allowing you to export sections of an image as PICTs or EPSs, and not Subscribe. It also has the neat feature that when you save an image, you can specify that its icon is a tiny representation of the image itself – a great help when you have dozens of files in a folder called, for instance, man1, man2, man3 and so on.

Photoshop 2.0 should be available by the end of July; UK distribution will be through all Adobe dealers, and it should cost around £895.

Ian Wrigley

POSTCARD FROM AMERICA

The Macintosh programmers conference, MacHack, is held in June every summer. With System 7 finally shipping, everyone got to hear the inside stories from the development team.

The ground didn't seem quite so firm after word leaked out about Apple and IBM getting together to share technology. The on and off and on again talks centred on Apple's forthcoming object oriented systemware, code-named "Pink." The System 7 code-name was "Blue." There's been a torrent of speculation about the origin of the two colour nicknames.

The plans for future system software were determined in a meeting of Macintosh programmers in March 1988. New features were divided up into two groups—those that could be built on the existing operating system foundation, and those that could not.

Each feature was written on a coloured index card, blue for the re-model job, and pink for the ground up construction. All the cards were stuck on a wall, and the programmers signed up to work on the Blue stuff or the Pink stuff.

The project manager was suffering from a touch of historical revisionism. She claimed that the Blue team was christened the 'Blue Meanies' a day before Apple Corps Ltd, London, sued Apple Computer. This was the suit concerning the use of the word 'apple' on music-related products. My examination of the newspapers show a month's difference. A case of poetic software license.

One of the best ways to see some of the Meanies is to open the Monitors control panel. Click on the version number, and hold the mouse button down. A little pop-up menu with six names and a face will appear. If you click the Option key, the face will stick out its tongue at you. Keep repeating the Option key and the names will mix themselves with the words "Blue Meanies."

David Morgenstern

DIRECT DELIVERY SERVICES
SUPPLIERS OF MULTI LISTING COMPUTER PAPER
7 BRITTANY COURT, HIGH STREET SOUTH, DUNSTABLE, BEDFORDSHIRE, LU6 3HR
Telephone: (0582) 667999

Direct Delivery Services - wholesale suppliers of computer listing paper, facsimile rolls, computer labels

IF YOU HAVE A PRINTER - WE HAVE THE PAPER

CODE	PRODUCT			QUANTITY	1 BOX
A1	11 x 9.5	60 GSM	Plain + M/R	2000	£13.97
A3	11 x 9.5	70 GSM	Plain + M/R	2000	£15.14
A5	2 Part	NCR	Plain S/perf	1000	£18.60
A6	3 Part	NCR	Plain S/perf	750	£24.00
A7	4 Part	NCR	Plain S/perf	500	£22.60
A8	11 x 14.5	60 GSM	Plain + M/R	2000	£17.85
A10	11 x 14.5	60 GSM	Half inch green bars	2000	£17.85
A11	11 x 14.5	70 GSM	Plain	2000	£20.43
A12	11 x 14.5	70 GSM	Music Rule	2000	£20.43
A13	11.67 x 9.5	60 GSM	Micro perf (A4)	2000	£15.30
A14	11.67 x 9.5	70 GSM	Plain Micro perf	2000	£16.30
A15	11.67 x 9.5	80 GSM	Plain Micro perf	2000	£17.80
A16	11.67 x 9.5	90 GSM	Plain Micro perf	1500	£19.70
A17	12 x 9.25	60 GSM	Plain Micro perf	2000	£15.80
A18	12 x 9.25	70 GSM	Plain Micro perf	2000	£16.80
A19	12 x 9.25	80 GSM	Plain Micro perf	2000	£19.70

FACSIMILE ROLLS

CODE	SIZE		
A20	210 x 50 x 25	12 Pack	£46.25
A21	216 x 100 x 25	6 Pack	£44.69
A22	210 x 100 x 25	6 Pack	£43.49
A23	210 x 30 x 25	12 Pack	£31.85
A24	210 x 30 x 12.7	12 Pack	£31.85
A25	216 x 30 x 12.7	12 Pack	£32.81

COMPUTER LABELS

SIZE	X/WEB	QUANTITY	PRICE
64 x 36	3	12000	£34.69
70 x 36	1	4000	£16.31
80 x 36	4	16000	£49.47
89 x 24	1	2000	£8.25
89 x 36	1	4000	£17.47
89 x 36	3	12000	£42.50
89 x 36	2	8000	£30.37
89 x 36	1	2000	£10.50
89 x 49	3	9000	£42.20
89 x 49	1	3000	£18.86
102 x 36	1	2000	£11.30
102 x 36	2	8000	£35.29
102 x 36	2	2000	£12.11
102 x 36	3	12000	£46.65
102 x 36	1	4000	£19.57
102 x 49	2	2000	£14.89
102 x 49	1	6000	£36.57
102 x 49	1	2000	£14.39

3.5" DSDD DISKS

50	£23.00	500	£145.00
100	£36.00	1000	£285.00
200	£67.00		

This is just a small selection. We have fax rolls for all machine models. All prices exclude VAT. All prices include delivery U.K. Mainland.
Cheques/P.O.'s made payable to D.D.S., 7 Brittany Court, High Street South, Dunstable, Bedfordshire, LU6 3HR.
Telephone: (0582) 667999. Fax: (0582) 602508

ATARI

ST Accessories

SM124 Mono Monitor	£109.99
External 3.5" Disk Drive	£69.00
Golden Image Hand Scanner	£169.00
Forget-Me-Clock II	£19.95
ST Monitor Switch Box	£14.95
STE Stereo scart lead	£12.99
STFM scart lead	£12.99
STE Stereo MKII 8833 lead	£12.99
STFM MKII 8833 lead	£12.99
Joystick/Mouse extension lead	£4.99
Replacement Mouse lead	£3.95
Standard Parallel lead	£5.95
Mouse Mat	£3.50
2 x Midi cables	£6.99

Protar Hard Drives

We are now *official stockists* of the latest in high quality / low price ST hard disk drives from Protar. All Protar hard disk drives come with a full 12 month REPLACEMENT warranty (no lengthy repairs!!), a DMA through port, device number switching and *Protar hard disk drives are the only manufacturer with the ATARI COMPATIBILITY seal of approval.*

Progate 20Mb Hard Disk	£346.24
Progate 40Mb Hard Disk	£399.50
Progate 40Mb with Cache	£470.00
Progate 44Mb Removable	£611.00
Progate 60Mb Hard Disk	£493.50
Progate 60Mb Tape Streamer	£581.63
Progate 80Mb Hard Disk	£581.63
Progate 80Mb with Cache	£628.63
Progate 150Mb Tape Streamer	£793.13
Progate 160Mb with Cache	£1234.52
Progate 440Mb with Cache	£1994.41

STE Ram Kits

DIY 1 - 512k upgrade	£29.99
DIY 2 - 2mb upgrade	£89.00
DIY 4 - 4mb upgrade	£159.00

All STE Ram Kits come with instructions and DO NOT require soldering in most machines.

8833 MKII

Colour Monitor

The Philips 8833 MkII is the perfect colour monitor for ST and Amiga owners. With its stereo sound and super quality picture it really shows off the full capabilities of the STE and the Amiga. The Philips 8833 MkII also comes with 12 months on site warranty FREE!

8833 with STFM cable	£249.99
8833 with STE cable	£249.99
8833 with Amiga cable	£249.99

Or even better ....

The new VISTO colour monitor. The VISTO C14M, made under official UK licence from Philips themselves, is identical in every respect to the Philips 8833 MkII including all inputs and outputs. But, VISTO have enhanced the looks of the monitor by replacing the case with a new upgraded better looking version. The VISTO C14M has a no quibble 12 month replacement warranty and comes free with cables for all Amigas and all Atari STs.

VISTO C14M £248.00

PRINTERS

ACCESSORIES & RIBBONS

All of our printers come with a parallel cable to suit Atari ST, Amiga and all standard PC etc (other cables available at extra cost - ask for details). All printers carry a full 12 months warranty. We only sell genuine UK stock - we do not offer inferior "grey imports".

CITIZEN

* 2 YEAR WARRANTY *

EXTENDED SPECIAL OFFER! *Due to the massive response to our FREE colour kit offer, we have decided to extend the offer so all Citizen Swift 9,24 and 24X printers will continue to come with a FREE colour kit and colour ribbon until stocks last.*

SPECIAL OFFER! *For a limited period only we are offering a CITIZEN PRINTER STARTER PACK with all Citizen printers. The pack comprises of : 3.5" disk full of printer drivers for the ST, Amiga & PC; 200 sheets of fanfold tractor feed paper; 200 fanfold tractor feed address labels; 5 tractor feed envelopes all for only £12.99 on top of the price of the printer*

Citizen 120D + (9-pin)	£139.00
Citizen Swift 9 (9-pin) *FREE COLOUR KIT*	£199.00
Citizen 124D (24-pin)	£209.00
Citizen Swift 24 (24-pin) *FREE COLOUR KIT*	£299.00
Citizen Swift 24X (15" 24-pin) *FREE COLOUR KIT*	£399.00

CITIZEN RIBBONS

120D / Swift 9 Black Ribbon	£4.50
124D / Swift 24 Black Ribbon	£4.50
Swift 9 / Swift 24 Colour Ribbon	£16.00
Swift 24X Black Ribbon	£7.50
Swift 24X Colour Ribbon	£18.00

CITIZEN ACCESSORIES

124D / Swift 9 & 24 Semi Auto S/Feeder	£39.99
124D / Swift 9 & 24 Automatic S/Feeder	£79.99
Swift 24 Font Cards (6 different) each	£35.00

TELESALES (0903) 700714
NOW OPEN FROM
10.00AM TO 12 MIDNIGHT
MONDAY TO SUNDAY

star

Star LC10 Mono (9-pin)	£155.00
Star LC200 Colour (9-pin)	£220.00
Star LC24-10 Mono (24-pin)	£215.00
Star LC24-200 Mono (24-pin)	£260.00
Star LC24-200 Colour (24-pin)	£295.00
Star XB24-10 Mono (24-pin)	£475.00
Star XB24-15 Mono 15" (24-pin)	£600.00

STAR RIBBONS

Star LC10 Black Ribbon	£3.50
Star LC10 Colour Ribbon	£5.20
Star LC200 Black Ribbon	£5.00
Star LC200 Colour Ribbon	£10.00
Star LC24-10 Black Ribbon	£4.75
Star LC24-200 Black Ribbon	£7.50
Star LC24-200 Colour Ribbon	£11.00

Other Printers .....

Canon BJ10E Portable Bubble Jet	£289.00
Hewlett Packard Desk Jet 500	£399.00
Panasonic KXP 1124i (24-pin)	£279.00

ACCESSORIES

Canon BJ10E Sheet Feeder	£59.99
HP Desk Jet Epson FX Emulation Card	£59.99

RIBBONS / INK

Canon BJ10E Ink Cartridge	£19.99
HP Desk Jet Ink Cartridge	£14.99
Panasonic KXP 1124i Ribbon	£9.00

LASER PRINTERS & PLOTTERS AVAILABLE ON REQUEST –
PLEASE RING US WITH YOUR REQUIREMENTS

AMIGA

Accessories

A500 512K ram upgrade + clock	£29.99
A500 1.5Mb ram upgrade	£99.99
A590 20Mb hard disk drive	£284.95
External 3.5" Disk Drive	£65.00
Golden Image Hand Scanner	£199.00
Amiga Stereo Scart Lead	£12.99
Amiga 8833 MkII Lead	£12.99
Mouse Mat	£3.50

512K Ram Upgrade with Clock

We are now stocking the new PROTAR 512K RAM UPGRADE WITH CLOCK. The neat, compact 4 chip design comes complete with box, instructions, on/off switch and a full 12 month warranty.

PROTAR 512K Ram with clock £29.99

We also have limited stocks of the genuine Commodore A501 512K Ram Expansion, which we are offering at the ultra low price of :

A501 512K Ram with clock £39.99

Please specify which 512K ram upgrade (either Protar or Commodore) when ordering from us.

LYNX

Games Console

The Atari Lynx is a superb full colour, hand held, games console using plug-in cartridge games. The Lynx can be used with either batteries or a mains power supply unit. All our Lynx machines come with instructions and are availabe with or without mains power supply unit and comlynx cable.

Lynx Console Only	£79.99
Lynx Console + PSU	£84.99
Lynx Console + PSU + Comlynx	£89.99
Carrying Case	£14.99
Carrying Pouch	£11.99
Car Power Adaptor	£9.50
Sun Visor/Scratch Shield	£6.99
Mains Power Supply	£14.99
Blue Lightning	£19.99
Chips Challenge	£19.99
Electrocop	£19.99
Gates of Zendocon	£19.99
Gauntlet III	£19.99
Klax	£19.99
Miss Pacman	£19.99
Rampage	£19.99
Road Blasters	£19.99
Robo Squash	£19.99
Rygar	£19.99
Shanghai	£19.99
Slime World	£19.99
Xenophobe	£19.99
Zarlor Mercenary	£19.99
War Birds *NEW*	£23.99
Paperboy	£23.99
California Games	£23.99
Block Out *NEW*	£23.99
Ultimate Chess *NEW*	£27.99

ATARI STE PACKS

ALL ATARI ST PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES.	512k	1mb	2mb	4mb
ATARI STE STANDARD PACK. consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.	£289.00	£319.00	£349.00	£429.00
ATARI STE DISCOVERY 1. consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack)	£299.00	£329.00	£359.00	£439.00
ATARI STE DISCOVERY 2. consists of the Standard Pack and First Basic, ST Tour, NeoChrome and 4 games (Dragons Breath, Super Cycle, Indiana Jones, Anarchy)	£299.00	£329.00	£359.00	£439.00
ATARI STE TURBO. consists of Standard Pack and STOS, Hyperpaint II, Music Maker II, First Basic and 8 games (Indiana Jones, Dragons Breath, Blood Money, Impossible Mission II, HKM, Anarchy, Outrun and Supercycle).	£309.00	£339.00	£369.00	£449.00
ATARI STE TENSTAR. consists of Standard Pack and Asterix, Chess Player 2150, Drivin Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Skweek and Trivial Pursuit II.	£309.00	£339.00	£369.00	£449.00
ATARI STE POWER. consists of Standard Pack and also 20 top selling arcade games. Due to lack of space, it is not possible to list the games. Please phone for details.	£309.00	£339.00	£369.00	£449.00
ATARI STE CURRICULUM. consists of Standard Pack and also 3 levels of educational software (from 5 yrs to 50 yrs !!!), a word processor, a spreadsheet, a database, HyperPaint and Music Maker II software.	£319.00	£349.00	£379.00	£459.00

AMIGA PACKS

ALL AMIGA PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS ARE UK STOCK AND CARRY A FULL 12 MONTH COMMODORE WARRANTY. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES.

AMIGA A500 BASE A500 computer, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software * STOCKS VERY LIMITED - SO HURRY *	£299.00
AMIGA A500 BASE 1MB A500 computer with extra 512K ram expansion, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software. * OUR RAM EXPANSIONS *DO NOT* INVALIDATE YOUR WARRANTY *	£325.00
AMIGA A500 ASTRA A500 512k computer, mouse, tv modulator, manuals, Workbench, etc supplied with 10 great software titles (see A500 1MB ASTRA pack below for details)	£325.00
AMIGA A500 1MB ASTRA Amiga A500 computer, 512K Ram expansion with clock and battery back-up, mouse, tv modulator, manuals, Workbench etc disks, plus the ASTRA 10 games pack including the following games : Datastorm, Dungeon Quest, E Motion, Grand Monster Slam, Kid Gloves, Powerplay, RVF Honda, Shuffle Puck Cafe, Soccer and Tower of Babel	£350.00
☆NEW☆ **AMIGA A500 1MB CARTOON CLASSICS** Amiga A500 computer, 512K Ram expansion with clock and battery back-up, mouse, tv modulator, manuals, Workbench etc disks, plus the following top selling software titles : Lemmings, The Simpsons, Captain Planet and Deluxe Paint 3	£359.00

HAVE YOU BOUGHT AN AMIGA FROM US ??

If you have, and you would like the opportunity to purchase the software from the new A500 CARTOON PACK, then simply ring us with the invoice number on which you bought your Amiga. The CARTOON SOFTWARE PACK comprises of Lemmings, The Simpsons, Captain Planet and Deluxe Paint 3 and is available to our Amiga customers for only £ 49.99 inclusive.

AMIGA 1500 PACKS	1mb	3mb	5mb	9mb
AMIGA A1500 BASE A1500 computer with 2 x 3.5" 880k disk drives built in, and a mouse. The A1500 base pack is supplied with no software.	£599.00	£795.00	£875.00	£1000.00
AMIGA A1500 SOFTWARE consists of A1500 base pack and Platinum Works, D Paint 3, Populous, Simm City, Battle Chess, Their Finest Hour and 2 books	£655.00	£850.00	£930.00	£1055.00

OUR TELESALES LINES ARE MANNED BY TRAINED STAFF AND NOW

OPEN 7 DAYS A WEEK!!

REMEMBER, WE ARE OPEN FROM 10.00 AM TILL 12.00 MIDNIGHT **EVERY DAY!!**

IF YOU WISH TO PLACE AN ORDER THEN PLEASE SEND YOUR CHEQUES, BANKERS DRAFTS, POSTAL ORDERS, CASH ETC. TO :

BEST PRICES (DEPT NCE), UNIT A, GRAFTON PLACE,
WORTHING, WEST SUSSEX. BN11 1QX

VISA

OR USE YOUR ACCESS OR VISA AND RING OUR TELESALES ORDER HOTLINE AT ANYTIME BETWEEN **10.00 AM AND 12.00 MIDNIGHT,** MONDAY TO SUNDAY, AND SPEAK TO ONE OF OUR FULLY TRAINED STAFF, ON :

Access

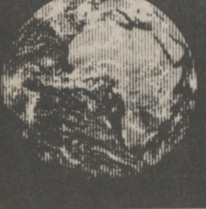
(0903) 700714

All prices include 17.5% VAT and free UK delivery (average 4 - 5 days) unless otherwise stated. All prices / specifications / special offers are subject to change without notice. Goods usually despatched same day when cleared payment is received before 2pm. Personal cheque clearance takes 7 days. Please make cheques/P.O's out to BEST PRICES. Mail order only. No callers please.
ADD £7.00 INC VAT FOR NEXT WORKING DAY UK DELIVERY FOR ORDERS PLACED BEFORE 2 PM

BEST PRICES MAIL ORDER - OUR TELESALES LINES ARE OPEN FROM 10.00AM TILL 12 MIDNIGHT - 7 DAYS A WEEK !!!

WHOLE WIRED WORLD

Hot off the modem ... Steve Gold reports on a cheaper PC File database package and a cut price clone PC chipset family; Apple's pink OS; a hard disk for the Atari Portfolio and Codehead packages released into the public domain



AMD'S CLONE PC CHIPSET FAMILY CHEAPER AND FASTER THAN INTEL

Advanced Micro Devices (AMD) has released a new family of 80386SX chips in the US. The flagship in the new chip series is a 25MHz microprocessor - 5MHz faster than the fastest available Intel chip in its class.

AMD chairman W.J. Sanders is calling the clone chips "the microprocessor for the masses," adding: "We intend to re-introduce normal semiconductor learning-curve pricing for microprocessors used in IBM-compatible personal computers, with price reductions for the Am386SX microprocessor exceeding 20 per cent per year over the next five years."

Sanders also said that a 30 per cent price reduction is scheduled for the next year.

AMD's new chips are said to be substantially cheaper than the official Intel microprocessors. All this points to an impending drop in the price of 80386SX-based PCs - time for the 80286-based PC to quietly fade away?

BUTTONWARE UPDATES PC FILE

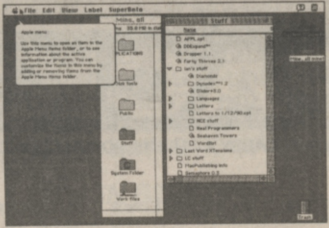
Buttonware in the US has released version 6.0 of its popular PC File database package. The $149-95 package, which made its name when it was shareware, now features a Windows-like interface, better file location and better macro capabilities.

A key feature of v6.0 is that dBase compatibility has been greatly enhanced. According to Buttonware, the package is as good as Ashton-Tate's database software, but costs a fraction of the price.

As with previous versions, 14 optional `ready to roll' PC-File applications modules, such as accounts payable, business contacts and invoicing are available. Contact: ButtonWare, PO Box 96058, Bellevue, WA 98009, USA. Tel: 0101-206-454-0479. Fax: 0101-206-454-1838.

MACS `IN THE PINK'?

Apple officials have quietly unveiled their plans for the next generation operating system for the Apple Mac and its compatible range of successors. The working name for the new OS is Pink. Unlike System 7.0, plans call for Pink to be fully object-oriented in its approach to driving the Mac. The OS will be portable and is being designed to run on different microprocessors, including Intel X86, Motorola 68XXX and the IBM RS/6000 Risc chipsets.



Apple menu

Use this menu to open an item in the Apple Menu Items folder, or to see information about the active application or program. You can customize the items in this menu by adding or removing items from the Apple Menu Items folder.

• Apple's new operating system will be called Pink and will be fully object oriented, but its launch is several years away.

Interestingly, Apple programmers are already working on the OS, which is being coded in C++ initially. Plans call for the new OS to be developed in close liaison with IBM. Compatibility with Mac System 7.0, OS/ 2.0 and the proposed Apple/IBM Aix (Unix) operating system is also planned.

But don't hold your breath. The introduction of the new OS is still several years away, and is highly dependent on what new hardware IBM and Apple come up with in the intervening period!

COMMODORE'S AMIGA SALES REVEALED

According to Computer Intelligence/ Infocorp's latest round of market research, Commodore has sold 1.3 million Amigas so far this year. The figures, which compare the sales of various computers, make for some interesting reading.

WORLD-WIDE UNIT SALES IN MILLIONS

Company	1989	1990	1991
Apple	1.5	1.6	2.1
Commodore	1.9	1.8	1.3
IBM	2.7	3.0	3.4
NEC	1.1	1.3	1.4

Sadly, CI/I's figures do not detail sales of the Atari ST, so it's impossible to produce one of those `ST beating Amiga' headlines for this story. It is, however, good to see the Amiga climbing in popularity.

GOODBYE ATARI SLM 804

It's official – the SLM 804 laser printer is now dead. Ron Kovacs' Z- Net on-line newsletter reports that the remaining stock of the laser printer has been sold to DAK Industries, the reknowned US mail order bargain bin supplier, which is offering the machines for $699.

To make the printer more appealing, DAK has adapted the unit to make it PC compatible, though its true features only come into their own when an ST is used. The SLM 804 name tag has gone out of the window as well – the DAK unit is called (wait for it) `the Silver Express'.

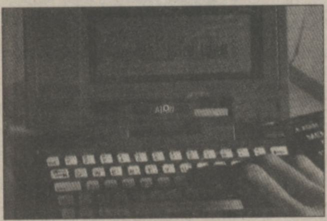
The good news is DAK has agreements with suppliers to ensure supplies of toner and drums for the laser printer for at least five years. Toner packs cost $49, while drum kits cost $199.

At these prices, SLM 804 laser printer users in the UK would do well to check out DAK's mail order catalogue. Contact: DAK Industries, 8200 Remmet Avenue, Canoga Park, CA 91304, USA. Tel: 0101-818-888-2695.

ATARI PORTFOLIO HARD DISK

BSE has announced the immediate availability of a hard disk unit for the Atari Portfolio. And, unlike most of the competition, this one is available to buy.

The Flashdrive hard disk connects to the Portfolio via its parallel interface. A 20Mb version costs $499 – almost half the price that Xoterix is charging for its unit. Contact: BSE, 14701 Candeda Place, Tustin, CA 92680, USA. Tel: 0101-714-832-4316



• Flashdrive is the new hard disk unit for the Atari Portfolio - available at half the price of a comparable unit.

CODEHEAD SOFTWARE INTO PD

Codehead Software has released several of its utility packages for the Atari ST range into the public domain. The result is that the software is now spreading around the US on-line systems like wildfire. Codehead is also offering the software by mail order for a nominal fee. The packages available so far in the Codehead freeware range are:

Loadkeys – A support program for Codehead's Codekeys, Macro software. The package allows user has to instant macro loading under Codekeys.

Hot Edit – *Hotwire* menu editor – allows *Hotwire* to be interfaced with most other software using menu-driven front ends.

Clockset – A new clock setting utility for the ST. Fixes a bug in the official Atari package that causes lockups in non-battery backed clocks on the ST.

Showmem – A new version of Codehead's memory display utility. This version supports the Atari TT's `Fast RAM' memory and has a heads-up display of what memory is in use, and what is available, on the Atari ST and TT.

Contact: CodeHead Software, PO Box 74090, Los Angeles, CA 90004, USA. Tel: 0101-213-386-5735 Fax: 0101-213-386-5789

COMMODORE BLOWS IT

Latest information from Commodore's R&D operations in the US is that Release 2.0 of the Amiga's operating system has been 'blown' into ROM. The chips will receive their official unveiling at the Amigaworld Expo show in Orlando, Florida from 26 to 28 July.

So why did this version of the Amiga's OS take so long to install on a ROM chip? Word from the on-line community is that support for outline fonts has been added to the software. This technology is complex, hence the delay.

FREE SLOTS FOR 286-BASED PCS

Cumulus has released an 80386SX upgrade for 80286-based PCs that simply slips into the empty 80286 socket. This feature, the company claims, means the $299 board is superior to the current competition, which requires the use of a PC expansion slot.

As supplied, the board comes without an 80386SX microprocessor, allowing the user to chose which speed processor to fit into his or her PC. With prices on the 80386SX chipset set to fall in the coming months, this is good news.

The 386SX board, which comes bundled with Microsoft Windows, is available in five versions, depending on the PC it is to be installed in. A $25 80387SX maths coprocessor kit is also available. Contact: Cumulus Corporation, 23500 Mercantile Road, Cleveland, OH 44122, United States. Tel: 0101-216-464-2211 Fax: 0101-216-464-1190. ■

Evesham Micros

All our prices include VAT at 17.5% and Delivery

AMIGA SPECIAL DEALS

VIDI-Amiga video digitiser	£ 110.00
VIDI-Chrome-Amiga colour splitter	£ 16.95
VIDI-RGB colour input splitter	£ 64.95
RocGEN Genlock Adapter	£ 114.99
MiniGEN Genlock Adapter	£ 95.00
CBM A590 20Mb Hard Disk	£ 279.00
A590 512K RAM Upgrade	£ 29.95
A590 1MB RAM Upgrade	£ 59.95
A590 2MB RAM Upgrade	£ 99.95
A500 Replacement PSU	£ 39.95
A500 Replacement internal 3.5" Drive	£ 49.95
KCS Powerboard PC Emulator	£ 229.99
Amiga Virus Protector	£ 9.95
Stereo Sound Sampler inc. s/ware	£ 29.95
MIDI Interface	£ 19.95
Golden Image Handy Scanner	£ 179.00
Kickstart 1.3 Upgrade	£ 29.95

Buy an Amiga Feature Pack From Evesham Micros AND YOU ALSO GET ....

THESE *FABULOUS* GAMES:

Tracksuit Manager '90 • Subbuteo • Diskman • Jungle Book • Diet Riot • Lost'N Maze • Battle Squadron • Asterix • Block Alanche • Tank Battle • Treasure Trap • Nigel Mansell

PLUS! A wordprocessor and spreadsheet

N.B. *Not* supplied with A500 'Base Pack' offers

NEW! AMIGA 500 1MB CARTOON CLASSICS PACK

Incredible Value !!! Includes **LEMMINGS, BART SIMPSON vs THE SPACE MUTANTS, CAPTAIN PLANET and DELUXE PAINT III**

ONLY £369.99

Cartoon Classics plus 3.5" External Drive ... £419.99

A500 COMPUTER BASE PACK

Amiga A500 Base Package	£ 307.49
Amiga A500 Base Package with 512K RAM/Clock Upgrade	£ 333.99
Amiga A500 Base Package *plus* External 3½" Drive	£ 357.49
Amiga A500 Base Package *plus* External 3½" Drive *and* 512K RAM/Clock Upgrade fitted	£ 383.99

N.B. *Does not include extra games software.*

A500 1MB Screen Gems Pack	£ 369.99
A500 1MB Screen Gems Pack *plus* 3½" Ext.drive	£ 419.99
CLASS OF THE 90's Package	£ 499.00
CLASS OF THE 90's Package *plus* 3½" Ext.Drive	£ 549.00
Amiga 1500 Starter Pack	£ 949.00

ATARI®

'KICK OFF' with GAZZA at Evesham Micros!

FREE! With EVERY ST Pack

★ 'GAZZA 2' ★ 'TRACKSUIT MANAGER 90' ★ 'SUBBUTEO' ★ 'THE BALL GAME' ★ 'TREASURE TRAP' ★ 'ASTERIX' ★ 'SKIDOO' ★ 'LEONARDO' ★ TOP QUALITY JOYSTICK ★ 10 X 3.5" DS/DD DISKS ★

TOTAL RRP OF EXTRAS: OVER £180.00 !

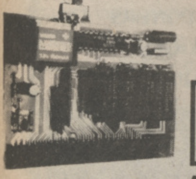
All our ST prices inc.mouse, user guide, etc. PLUS 5 disks full of specially selected P.D. s/ware, inc. paint program, wordpro's, games, graphics & sound demos, desk accessories and utilities.

EVESHAM MICROS PRICE PROMISE - WE WILL *BEAT* ANY GENUINE ATARI ST PACKAGE OFFER ON A LIKE-FOR-LIKE BASIS

520 STE 'DISCOVERY EXTRA PACK'	This excellent STE starter package from Atari includes the Atari 520 STE with 1Mb Drive, 512K RAM, full digital stereo sound, PLUS extra software including: *'Dragon's Breath'* ● *'Super Cycle'* ● *'Indiana Jones'* ● *'Anarchy'* ● *'Neochrome'* ● *'FirST BASIC'* ● *'Atari ST Tour'*	**£299.99** inc.VAT and delivery ONLY £329.99 WITH 1MB RAM FITTED ONLY £369.99 WITH 2MB RAM FITTED ONLY £439.99 WITH 4MB RAM FITTED
520 STFM 'DISCOVERY PACK'	*Pack includes 520STFM computer, plus :* STOS Games Creator ● Outrun ● Carrier Command ● Bomb Jack ● Space Harrier ● Neochrome ● FirST BASIC ● Atari ST Tour ● 'Discovering your Atari ST' Book	**£279.99** inc.VAT and delivery ONLY £309.99 WITH 1MB RAM FITTED
1040 STE 'FAMILY CURRICULUM PACK'	1040 STE including educational & productivity software : **Educational Software** modules, split into three age categories, from Early School to GCSE revision. ● **Productivity Software** featuring Wordprocessor, Database and Spreadsheet (RRP over £100) ● **Plus!** Hyper Paint, Music Maker and FirST BASIC	**£369.99** inc.VAT and delivery ONLY £449.99 WITH 2MB RAM FITTED ONLY £529.99 WITH 4MB RAM FITTED

SM124 monochrome hi-res monitor	£ 129.95	Reference 40Mb SCSI Hard Disk inc.PSU	£ 349.00	VIDI-ST & VIDI-Chrome video digitiser pack	£ 99.95
Philips CM8833 Mk.II, inc.cable	£ 239.00	Reference 100Mb SCSI Hard Disk inc.PSU	£ 499.00	VIDI-RGB colour input splitter for VIDi	£ 64.95
Joystick Accessibility Adapter for ST's	£ 4.95	Golden Image Handy Scanner Package	£179.00	Dust Cover - for any STF / STFM	£ 4.95

AMIGA 500 512K RAM/CLOCK UPGRADE



Direct replacement for the A501 Expansion ● Convenient On/Off RAM Switch ● Auto-recharging battery-backed Clock ● Compact unit size ● Ultra-neat design

ONLY £28.99

Available without clock for £24.99

A500 1.5MB RAM EXPANSION

(requires Kickstart 1.3)... **ONLY £79.00**

Kickstart 1.3 upgrade available from us for only £ 29.95

NEW! MEGABOARD

Connects to your 512K RAM Upgrade to give 1.5Mb!

With the MEGABOARD, you can further expand your A500's memory to a total of 2Mb *without* disposing of your existing 512K upgrade (must be 4 x RAM-chip type, or not exceeding 9cm in length). Needs Kickstart 1.3 to operate.

Installation requires no soldering! ONLY £59.95

ST SIMMS RAM EXPANSION SYSTEM

✔ Fits Atari STFM and MEGA series machines
✔ Uses SIMMS RAM Modules for Effortless Upgradeability
✔ Probably the neatest ST RAM Upgrade available !

RAM Upgrade (unpopulated)	£ 44.95
RAM Upgrade With 512K RAM Installed - upgrades a 520 to a total of 1Mb RAM	£ 74.95
RAM Upgrade With 2Mb RAM Installed - upgrades a 520/1040/Mega1 to 2/2.5Mb	£ 119.95
RAM Upgrade With 4Mb RAM Installed - upgrades a 520/1040/Mega ST to 4Mb	£ 199.95

N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

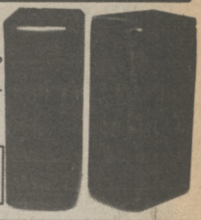
PLUG-IN SOLDERLESS ST RAM UPGRADES

Two versions allow upgrade to 1Mb, or 2 / 2.5Mb ● Simple, fast and effective RAM upgrade path ● Suits almost any 520 or 1040 ST model (not STE machines) ● Requires no soldering or technical know-how

512K VERSION : UPGRADES ANY 520 ST TO 1MB RAM	£49.95
2MB VERSION : UPGRADES ANY 520 or 1040 ST TO 2 / 2.5MB RAM	£99.00

ZY-FI amplified stereo speakers

GOT AN AMIGA, ATARI STE, ARCHIMEDES, SEGA MEGADRIVE, ATARI LYNX OR NINTENDO GAMEBOY? THEN GET THE FULL SOUND POTENTIAL WITH THIS PAIR OF FULL RANGE, AMPLIFIED STEREO SPEAKERS!



ONLY £39.95

3½" EXTERNAL FLOPPY DRIVES

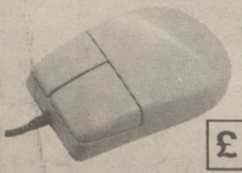
Compatible with the ST or AMIGA

Very quiet ● Slimline design ● Cooling Vents ● Sleek, high quality metal casing ● Suits any Amiga or Atari ST ● Full 1Mb Unformatted Capacity ● Quality Sony / Citizen Drive Mechanism ● Convenient On / Off switch on rear of drive ● Long reach connection cable for location either side of computer

AMIGA VERSION ONLY **£54.95**

ATARI ST VERSION ONLY **£54.95**

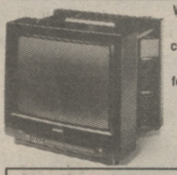
TRUEMOUSE (ST or AMIGA)



WE GUARANTEE that this is the smoothest, most responsive and accurate replacement mouse you can buy for your Atari ST or Amiga. Excellent performance, amazing low price !

£17.95 *SATISFACTION GUARANTEED*

PHILIPS 15" TV/MONITOR



With its dedicated monitor input, this model combines the advantages of a high quality medium resolution colour monitor with the convenience of remote control Teletext TV - at an excellent low price ! NEW Version features dark glass screen for improved contrast, plus full range 3-way speaker sound output .

£269.00 Including VAT, delivery & cable

Philips CM8833 Mk.II including ST or Amiga cable .. £ 239.00

PRINTERS

ALL PRINTERS INCLUDE CABLE & 1 YEAR ON-SITE WARRANTY

Star LC10 best-selling 9-Pin PRINTER, SPECIAL PRICE	£ 129.95
Star LC 200 9-Pin Colour, 4 fonts, 180/45cps	£ 209.00
Star LC 24-10 24-Pin multifont, 180/60cps	£ 209.00
Star LC 24-200 24-Pin multifont, 200/67cps	£ 249.00
Star XB24-10 inc.COLOUR Upgrade and Sheet Feeder	£ 359.00
Olivetti DM100S 9-Pin, includes 1 Year on-site warranty	£ 115.00

olivetti DM124C 24-pin Professional COLOUR printer

Professional Quality 24-Pin Colour Printing - At an affordable price!

Offering advanced COLOUR output with the *superior* quality of Olivetti 24-pin printing, the DM124C represents excellent value! Consistent high quality is assured every time. *Guaranteed* Peace Of Mind, with 12 Months On-Site Warranty cover !

200 cps draft, 50 cps LQuality ● 7 Colour output; Graphics resolution 360 x 180dpi ● **Complete with cable, Colour Ribbon and 12 MONTHS ON-SITE WARRANTY**

Olivetti DM124C Normal RRP: £ 389.95 inc.VAT

SPECIAL OFFER! £269.00 including VAT and delivery

LYNX Portable Games Console

Only £109.99 INCLUDES POWER SUPPLY & GAMECARD OF YOUR CHOICE!

Electro Cop	£21.95	Rygar Warrior	£21.95	Gates-Zendocon	£21.95
Slime World	£21.95	Zalor Mercenary	£21.95	Chips Challenge	£21.95
Klaxx	£21.95	Ms Pacman	£21.95	Shanghai	£21.95
Roadblasters	£21.95	Xenophobe	£21.95	Rampage	£24.95
Paperboy	£21.95	Blue Lightning	£21.95	Gauntlet 3	£24.95

Cigarette Lighter Adaptor	£ 9.99	Lynx Pouch	£ 9.99
Sun Visor / Protector	£ 5.99	Lynx Kit Case	£ 14.99

Evesham Micros

ALL PRICES INCLUDE VAT @ 17.5% AND DELIVERY

Same day despatch whenever possible. *Express Courier* Delivery (UK Mainland Only) £6.50 extra.

RETAIL SHOWROOMS

Unit 9 St. Richards Road
Evesham
Worcs WR11 6XJ
☎ 0386 - 765180
fax : 0386 - 765354
Open Mon - Sat, 9.00 - 5.30

5 Glisson Road
Cambridge CB1 2HA
☎ 0223 - 323898
fax : 0223 - 322883
Open Mon - Sat, 9.30 - 6.00
IBM Dealer ● Corporate Specialist

1762 Pershore Road
Cotteridge
Birmingham B30 3BH
☎ 021 - 458 4564
fax : 021-433 3825
Open Mon - Sat, 9.00 - 5.30

MAIL ORDER DEPARTMENT

Unit 9 St Richards Road, Evesham, Worcs WR11 6XJ

Access

Call us now on ✆ 0386-765500

Lines open Mon-Sat., 9.00 - 5.30. Fax: 0386-765354
Technical support (open Mon-Fri, 10.00 - 5.30): 0386-40303

VISA

Send an Order with Cheque, Postal Order or ACCESS/VISA card details. Please allow 5 working days for Personal Cheque clearance.

Government, Education and PLC orders welcome
All products covered by 12 Months Warranty
All goods subject to availability.

TEL; 061
773 3897
Ext 21

BANKHOUSE

Old Co-op Bldg, Warwick Street, Prestwich
Manchester. M25 7HN

FAX; 061
773 0140

LEISURE

ATARI

Discovery STFM 8 titles	£229
Turbo STE Joy/12 titles	£289
Extra 1040 STE 8 titles	£399
Lynx Game System	£74
Portfolio	£156

AMIGA

Screen Gems	£309
Class 90's/1st Step	£390
10 Astro Game Pack	£37

Disk Drives, Monitors,
Emulators, As Available
Phone for details

FAX'S

Amstrad 960AT	£529
Amstrad FX5000	£339
Brother 160	£339
Toshiba TF102	£389
Toshiba TF232	£508

SPECIAL BUSINESS PACKAGE

PCS 286 HD40
Col Mon, Mouse 1992
software, Panasonic 24 pin
printer, cables, 12 months on
site maintenance
£945 While stocks last

PORTABILITY SPECIAL

Hyundai LT5 386 2Mb RAM
40Mb HD VGA inc.
Canon BJ10e, carry case,
Battery Charger, File transfer
software
£1530 Limited Stock

Everex E series	
286/16 40HD Col	£697
386/20 40HD Col	£891
Apricot XEN S	
286 47 HD Col	£845
386 50HD Col	£1010

MITAC PC'S

286/12 1.2 FDD, 1 Mb RAM,	
40Mb HD, Colour VGA	£797
120Mb HD, as above	£972
386/20, 1Mb RAM,	
40Mb HD, Super VGA Col	£1299
As above, 120Mb 110	£1494

Mitac PCs supplied with Microsoft Windows 3 & Mouse F.O.C.

SEGA

Mega Drive	£119
Game Gear	£79
Master System	£49
Master System Plus	£64

Wide variety of Games Available

DISKS

Unbranded ea	10	100	250
350k DSDD	40p	30p	25p
720k DSDD	50p	40p	32p
1.2Mb DSHD	65p	55p	45p
1.4Mb DSHD	1.00	80p	45p

FREE Labels & Disk Boxes

LASERS

Brother HL4	£719
Brother HL4PS	£1189
Brother HL8E	£989
Brother HL8V	£1079
Brother HL8PS	£1489
Canon LPB4	£695
Canon LP8III	£1097
Canon LP8IIIT	£1487
HP LJIII	£1000
HP LJIII D	£1609
Panasonic KXP4420	£675
Panasonic KXP4450i	£1100
Panasonic KXP4455	£1650
MT904	£699
MT905	£759
MT906	£829
MT911	£1099

AUTHORISED DEALERS
for Apricot, Everex, MT,
Novell and many more
Phone for Details

MITAC PORTABLES

3030D 386, 16Mhz	
40Mb, HD, VGA	£1499
As Above + Fax Modem	£1629
3025D 386SX Notebook	
20Mb, VGA,	£1499
As Above + 40Mb HD	£1629

Mitac Portables supplied
with Microsoft Works
NB includes Windows 3

AMSTRAD

GEM 3.	12MD	14CD	14HR
3086SD	421	499	578
3086DD	460	538	617
3086HD	617	538	774
3286SD	499	578	656
3286HD40	734	813	891

PCW8256	£289
PCW8512	£439
PCW9512	£479
ALT386	£1559
ALT286	£1274

PORTABLES

TOSHIBA

T1000SE	£472
T1000XE	£626
T1000LE	£941
T2100XE 20	£1130
T1200XE 40	£1256
T2000SX 20	£1669
T3100e 20	£1256
T3100e 40	£1511
T3200SX 40	£2264
T3200CSX	£4217
Hyundai 286	£849
Hyundai 386	£1425

(with free carry case &
file t/fer software)

Commodore CLT	£1025
Phillips PCL101	£449
Phillips PCL203	£1275

PRINTERS

MT81	£109
MT82	£259
Citizen 120D	£110
LX400	£135
LX850	£199
FX1080	£395
LQ400	£203
LQ2250	£729
Panasonic 1081	£122
Panasonic 1123	£178
Panasonic 1180	£138

Modems & Fax

Worldport 9600	£585
Worldport 2496	£375
Worldport 2400	£295
Worldport 2423	£253
Acoustic Coupler	£40

PHONE 061 773 3897
EXT 21

PRICES & SPECIFICATION SUBJECT TO CHANGE E & OE

CANON BJ10e £220

SOFTWARE

Autoroute Plus	£202
Corel Draw 2.0	£299
Framework III	£348
Harvard Graphics	£279
Laplink III	£79
Lotus Agenda	£259
Lotus Works	£105
Lotus 123	£315
Norton Utilities	£108
Microsoft Works	£120
MS Quick BASIC	£59
Paradox 386	£347
PC Tools V6	£89
Smartware II	£414
Superbase 4 V1.2	£349
Supercalc 5	£79
Wordperfect 5.1	£279
Wordstar V6	£229
Windows 3.0	£75
Word Window	£299

MISC

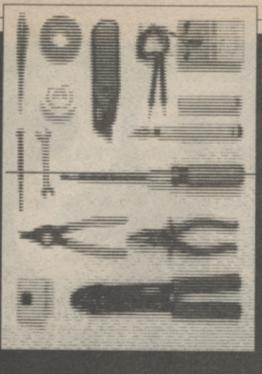
SWITCHES
DATA CARTRIDGES
TAPE UNITS
MICE UPS TONERS
CARTRIDGES
FAX PAPER

3M COMPUTER TAPE

	10-40	50-90	100+
C162	15.82	15.14	13.77
C55	14.02	13.41	12.20
C112	14.58	13.95	12.69
Bulk Reel only			
	13.13	12.56	11.43

TERMS

All prices exclude delivery and V.A.T. All good U.K. source with Manufacturers Warranty. Cash, Cheque, Credit Card with order. Tenders welcome. Goods offered subject to being unsold. Goods not offered on trial basis.



CIRCUIT CITY

A PC's advantage is its open-ended flexibility. Keith Pomfret looks at some of the painless ways to upgrade and enhance your machine

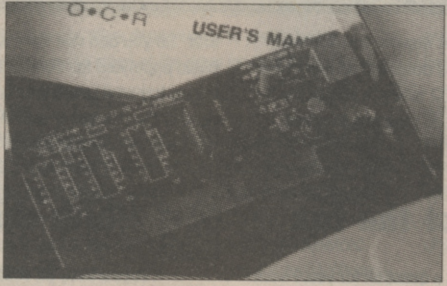
While ST and Amiga owners get on with their 'my machine's better than yours (MMBTY)' debate, PC owners can be sure of one thing. Should there ever be a 'my machine's more easily expandable than your's (MMMEETY), then they will be the hands down winners.

When IBM drew up the rules that were to become the blueprint for the office computer of the decade, it included a bay of expansion slots designed to help the owner add accessories and features at a later date and with the least amount of fuss.

The PC and its clones were the first worldwide mass produced desktop computers to invite the user to open the lid and dig around inside. Most computers come with a disclaimer that says kiss bye-bye to the warranty if you as much as peek at the insides of the machine. Not so the PC. Most desktop PCs and even some laptop PCs have slots for expansion. These expansion slots take a printed circuit board with an edge connector that slots in and is fastened to the computer's chassis with a screw.

THE FIRST AND THE LATEST

The first PCs were 8066/8068 based PC Jrs and latterly PC/XTs. These and the XT clones are modelled on 8-bit architecture and are equipped with 8-bit expansion slots. The later IBM AT and clones are based on the 80286 processor which is a true 16-bit processor. These and the current generation of 386SX, 386DX and 486 machines have slots for 16-bit expansion cards. To confuse matters further, many 16-bit machines also have 8-bit slots to supplement the 16-bit ones.



• This miniature expansion card can be used with a scanner and being only a couple of inches long it should fit in most PCs.

Identifying which slots your machine has is simple. First, unplug and disconnect your machine from the mains and any peripherals. Next, follow the manufacturer's instructions on how to get to the expansion slots. Some PCs require you to remove the whole of the outer casing, leaving the chassis bare. Others, notably Amstrad, have a removable panel which gives simple access to the expansion.

HOUSE OF CARDS

A PC can be upgraded by adding an expansion card. This can be anything from a simple serial port to a full blown upgrade PC on a card. Upgrades can be divided into two basic kinds.

There are those which add functionality to a machine by adding extra ports and enhancing the operating system in some way.

This could be in the form of a gamesport, serial or parallel port or a disk controller card. This group also includes the memory expansion cards which can take the lowly 640K PC up to 32Mb of on-board memory.

The second kind of expansion card is that which allows some kind of external peripheral to be added or enhanced. At their simplest, this could mean a video card allowing, say, a VGA monitor to be fitted. More complex cards include driver cards for scanners, digitisers, uninterruptible power supplies and sound cards. Whatever you want to do, there's a card for it.

Once you've removed the necessary covers, there will be a row of slots facing you. An 8-bit slot has a channel for a single edge connector to fit into. A 16-bit slot has a second shorter slot for a further edge connector which is mounted length ways first.

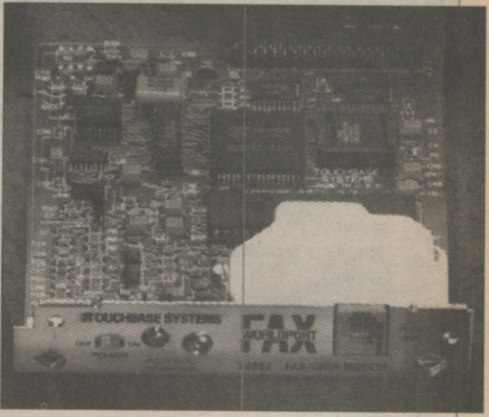
Generally, an 8-bit expansion card will work in a 16-bit slot, only occupying the first edge connector. But a 16-bit card won't work in an 8-bit slot as there are no connections for the second bank of address lines.

SPACE AT A PREMIUM

With all of this compatibility it would be simple to think that expansion would be an uncomplicated, but it's never that easy in computer-land. Not all manufacturers make their expansion bays the same length. The current trend towards smaller and neater desktop PCs puts space at a premium, and some manufacturers have trimmed the length of space available to the expansion cards. Thus if the upgrade you plan requires the use of two full length cards and your PC has three-quarter length slots, you're out of luck.

ADDRESS IDENTITY CRISIS

Another problem that may rear its confused head is that of memory address. If you are fitting two or more expansion cards, there's always a chance that they may have a conflict of address. When you attach an expansion card to the PC, the machine must know where to 'find' it so each card has an address. The problem comes when two cards have the same address. If, say, the data for a sound card gets sent to a video card, it's akin to speaking Swedish to a Belgian – things get confused.



• The Worldport Faxcard showing the external connections for a telephone line and acoustic interface.

Thankfully, most cards which are likely to have this address identity crisis are now made with small switches or jumpers which enable addresses to be modified to avoid such conflicts.

Once you've decided on which card to fit and you have an open machine in front of you, it's simply a matter of working out the orientation of the card and firmly sliding it into its slot. A screw in the outward end of the card attaches it to the chassis and it's ready. Some cards have a blank end and others have ports and controls on them. Care is required when fitting a card with ports or controls as they must be easily accessible from outside the machine. Most PCs offer easy external access but one or two are a little awkward.

With the card fitted and the covers back on, you can reconnect all your peripherals, monitor and mains and you are ready to try the upgrade or expansion out.

NOW GET RUNNING

The kind of card you decide to fit will determine the installation and running procedure and this can vary from a simple system where software 'finds' the card and uses it such as a games port, to a full motherboard on a card-style upgrade that will need configuration and hardware setting.

Most cards will require some sort of software support and if this isn't the kind built into existing software, it will be supplied with the expansion card. If at a later date, you need to further upgrade or remove the expansion card, you just open the machine, unscrew and remove the card and reconfigure any software.■

HOW MUCH AND HOW DIFFICULT IS IT?

Anyone with the ability to follow a few simple instructions and the manual dexterity to use a screwdriver can upgrade a PC.

The cost depends on what you need to do, but simple port cards start at around £15. A multiple serial/parallel/games port could cost £40, display cards weigh in from £20 for a simple CGA/EGA model to hundreds of pounds for the latest Super VGA models

Soundcards start at around £50 and rise to £400 for a complete multi-timbral synthesiser.

Memory and processor upgrades can weigh in heaviest with prices running into thousands for multi-megabyte upgrades. Smaller more usual upgrades are likely to cost much less, though, with a chip kit for upgrading a 512K PC to 640K costing only a few pounds through mail order.

TECH TIPS

Do you want your character stripped to the bone? Does your PCW need a serial port in a storm? Need 128 on-screen colours on your Spectrum? Read Keith Pomfret's Tech Tips

PC or not PC?

Being rather ignorant on what personal computers are available and what their capabilities and limitations are, I would be pleased if you could give me some guidance. (My local shop keepers tend more to confuse me than clarify).

I would like the computer to be able to cope with my club's accounts (VAT registered), and also extensive data-handling and word processing.

I would also like my children to use it to further their education and inevitably there would be a requirement for games and simulations to be played on it. I would need a printer that is capable of producing reasonable copies.

Can the above be achieved on a hardware budget of £500-£600 and what computer and printer would you recommend?

PM Fox Stoke-on-Trent

YOUR LONG LIST of questions makes a simple answer difficult. The business applications suggest a PC. However, a computer purely for education would be an Archimedes or a Macintosh. The gaming machine would be the Commodore Amiga and for a printer, your choice within your budget is dot matrix or a cheap bubblejet model. Try UK Home computers on 0793 695034 for the sort of equipment you need within your budget.

Link up

I was wondering if it is possible to connect an old 1541 CMK1 to an Amiga to use under the 64 Emulator. I have heard rumours that it is possible but have never seen anything available to do it. Please help. Also, can you recommend a good, fast modem for the A500 (9.6-19.2k) that offers best features for cost?

M Reynolds, Staffs

IT IS POSSIBLE. There are two ways to do it and an up and coming feature in Circuit City will show you how to do them both. Look elswhere in this mag for Tim Howell's definitive review of the Multimodem V32 which is one of the nicest high-speed modems to grace *Express*'s door.

Just the fax

I've got a question for you. I want to know if it's possible to connect my Commodore Amiga 1500 to an Amstrad 9600AT fax machine so that I can use its internal 9,600-baud modem.

I would really like to attach it to a serial port, if possible, because I have my printer connected permanently to the parallel port.

The modem in the 9600AT operates at 9,600/7,200/4,800 and 2,400bps, and has a 36-way parallel interface. Do you think that it would be possible to make a lead to connect the two?

Marcus D East, London

• *The Amstrad Fax machine allows you to communicate with a computer.*

IT IS INDEED possible to connect your Amiga to the Amstrad fax machine, which does have a port to allow this. Unfortunately, you'll be limited to sending basic text strings as there isn't any 'intelligent' software to do anything cleverer. So you can use the fax as a very basic paperless fax sender accepting text to transmit to another fax, but not access the modem to use in a more conventional comms mode.

Which chip?

I have a MAC SE which has an accelerator card boosting its clock speed from about 8MHz to 16MHz. I understand that my computer has a Motorola 68000 chip.

What I want to know is how does this compare with, say, an 8086 PC running at the same speed? My friend reckons that the Motorola 68000 chip is equivalent to the Intel 80286 chip and that the 68020 is the equivalent of the 80386. However, if that is correct then where does that leave the 68030 and 680386 in comparison with the 80486?

Your answers would be gratefully appreciated and, while you're at it, any chance of printing a table comparing the processing power of all the different makes and types of chips? Thanks!

Simon Phillips, Warwickshire

A STANDARD 8086 PC XT clocks at around 4.77MHz. Even the quicker updated machines don't often beat the 10MHz barrier, so your 16MHz accelerated Mac outruns them easily in terms of processor speed.

An important point to note though is that speed isn't everything. The functionality of the friendly front end of your Mac would be considered by some to be worth more than the speed increase of a faster processor in a PC.

Your friends' analogies are valid in that they roughly sum up the positions of the various chips in their individual hierarchies, but the advantages and disadvantages of the Motorola and Intel chip sets mean that there's a little bit more to it than: "My 68040 is faster than your i486".

The power functionality table is something that we're looking into and if we get enough requests for this sort of data, we'll print *The Computer Bore's: My Chip's Got More Bits, MIPS, FLOPS and Megawidgets Than Yours Has, So There* guide.

Pinned down

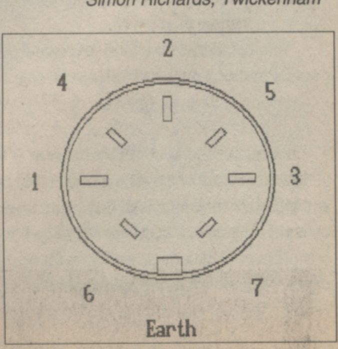
I enclose a pin diagram for the RGB socket on the back of the Hitachi CPT1646r colour 16-inch television/monitor for inclusion in the Tech Tips library. It is a remote controlled television with a RGB input on the back. A small white switch at the rear toggles between the two modes. These are the pin functions:

1 – Red input – Nominal Level 0.7pp 75Ohms
2 – Green input – ditto
3 – Blue input – ditto
4 – Sync input (-ve)
5 – Earth
6 – Sound input – Nominal level 500mV/22k for 0.5W output

The diagram is viewed from the rear of the receiver. Don't say I never give you anything.

By the way, what did Stuart Campbell mean when he said in *Express* 139 "stand by for loads more trash Simon!"?

Simon Richards, Twickenham



• *The pin configuration for the Hitachi 1646.*

Quality cabling

A COUPLE OF weeks ago we ran a plaintive letter from Barbara Yarwood of BY Cables suggesting that we put her company on the list of approved Tech Tip cable-makers.

Shortly after that we telephoned her with a request for a cable and within a matter of days it arrived.

If the Atari STFM to Commodore 1084D cable and an extra Amiga modulator extension set that Barbara sent for our approval are anything to go by, BY Cables deserves the coveted *Express* seal of approval.

The cables are well made and of good quality.and most importantly they work. So if you fancy giving BY Cables a try, write to Tech Tips and let us know how you fare. BY Cables can be contacted on 0323 487030.

THANKS FOR THAT. I wouldn't dream of accusing you of parsimony and I haven't a clue what Stuart meant. And even if he told me I'm sure it would lose something in the translation from his Caledonian burr to *Express* South Western Standard English via my lovely Lancastrian accent. Ahm reet sorry ma'am, I left me clogs in the weaving shed, and all that.

• The ST comes with one keyboard, but adding a second one shouldn't prove difficult.

It ain't heavy

For years I owned a BBC model B and it has a Dot Matrix Brother 2109C printer with it.

Now that I've bought an ST can I still use the printer with it?

Is there a cable I can connect to the 25-pin socket at the back of the Brother; the BBC computer uses the other socket.

If there is such a thing, where can I get it and how much will it cost me?

It seems such a pity to have to buy a new printer just because the Brother is not compatible.

Ted Wed, Hampshire

YES YOU CAN for there is such a thing. It's called a parallel cable and you can get it from Simpson Electronics on 0332 760353 who will tell you the price.

Alternatively, you could buy the necessary bits from Tandy and make your own.

Soft option

My son bought a bundle of software at an auction and, although there is about £1000 worth of software on original disks, it doesn't say which computer it's for.

How can I find out which machine I need to buy.

Bill Porter, Peterboro

Simply take the disks down to your friendly computer shop and ask them to try them in a few computers until you find the one that they're from. ■

Write to Keith Pomfret,
Tech Tips, *New Computer Express*,
30 Monmouth Street, Bath BA1 2BW.

Take your pick of the tips

THE TECH TIP Mailbag generally consists of cries for help and a trickle of tips. This week, however, we received a weighty 1000-plus words from John R Hudson of Huddersfield crammed with more tips than a snooker cue factory. Normally, long letters are consigned to the bin or ruthlessly hacked, but this time we've made an exception and broken John's letter down into digestible chunks.

CHEAP AND CHEERFUL

There are numerous examples of cheap and/or 8-bit software outperforming standard PC and even mainframe software.

Stop Press, for example, can flow text around graphics and *DR Draw* and *Graph* come with scaleable fonts, though none of these has the power in other departments to justify being chosen in preference to some of the more modest PC software.

GIANT SLAYER

The *Mini-Office II* graphics module outperformed Lotus *1-2-3* up till release 2.2. Incidentally, *Mini-Office II* holds its graphics data in ASCII delimited format so it can accept data from databases and spreadsheets that can export in ASCII format.

The data table (20 rows by two columns on the Amstrad CPC version) needs the numeric values in the left hand column and the text values in the right hand column and, if saved in ASCII delimited format, will load directly into *Mini-Office II*. Three such tables can be loaded in the CPC version as long as the text values are identical so that results can be compared.

mini
OFFICE

• Mini Office 2, the lightweight multiple application packkage available across the formats. It offers spreadsheet, word processing, database, graphics and comms.

LISTOMANIA

Perhaps a more serious contender is *dBASE II*, the substring feature ($) of which enables you to find a sequence anywhere in a text field. So, for example, if I want to list all the books I have with 'CP/M' or 'MSDOS' in the title, I only need to enter 'CP/M' or 'MSDOS' as the substring and it will list them regardless of where the sequences 'CP/M' and 'MSDOS' occur in the titles. If I have some titles with 'MSDOS' and some with 'MS-DOS', I can ask it to find 'MS' and 'DOS' in the title.

Amazingly, this feature was left out of *dBASE III* and, as far as I am aware, has not been restored in *dBASE IV*. It is also, I am told, unavailable on many mainframe database programs. You can specify a sub-string, but you must also specify where in the field it can be found.

Of course *dBASE II* was superseded because it was slow and had limited facilities; having used it on a 12MHz AT, I can confirm that its 'slowness' is solely related to processor and disk access speeds. Give it a 25MHz processor and a 28ms access hard disk and I would expect it to outpace virtually every other database. As for its limited facilities, well I've yet to write an application that needs more files open than *dBASE II* allows, though I admit I haven't written anything that needed it.

TYPING POWER

I also have a type-in program for analysing company performance, developed from a program written by Stephen Wells for PCs several years ago. Run under *Supercalc 2*, it takes account of all the 'industry standards' used for analysing company performance. Apart from lacking the graphics output, it out-performs all the fancy packages I have seen for PCs.

EXPRESS AN IDEA

I got the idea for this letter from the news item on page 6 of *Express* issue 139. *Ami Pro 2* now has a feature called 'Power Fields' by which it can 'perform a task automatically ... request the input of a name, look up the address from another file and place the name and address on the page'.

I have been doing something very similar for five years with *Newword 2* on my Amstrad CPC. If I merge one report, for example, it first asks which of five standard formats I want to use and then the name of the relevant person. It finds the chosen format, merges the data relevant to that format from a data file and then looks for a text file pointed at by the data file and merges that, re-formatting it if necessary to fit the chosen format, and ends by leaving a space for my signature.

NEWWORD 2, AMI PRO NIL

Unlike *Ami Pro*, I have to use *Newword's* preview option to see what it will look like but, from the description, 'Power Fields' looks rather less powerful – in spite of the name – than *Newword's* ability to open up to eight text or data files simultaneously at printout.

Ami Pro 2 can now support documents of virtually any size 'limited only by available disc space'. *Newword 2* has always been able to do this, though in practice no one would try and work on such a long document. However, having split up a document into sections, I can then print a document consisting of any number of sections (merging data directly or conditionally as required as long as the limit of eight files being opened simultaneously is not exceeded) scattered across any number of disks in correct page sequence until I reach page 65534. I can change disks at the end of any section though I need to make sure that all the files on that disk are closed before the change is made.

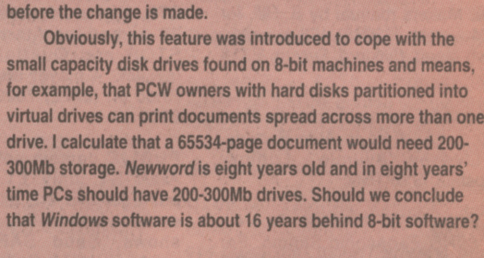
Obviously, this feature was introduced to cope with the small capacity disk drives found on 8-bit machines and means, for example, that PCW owners with hard disks partitioned into virtual drives can print documents spread across more than one drive. I calculate that a 65534-page document would need 200-300Mb storage. *Newword* is eight years old and in eight years' time PCs should have 200-300Mb drives. Should we conclude that *Windows* software is about 16 years behind 8-bit software?

SHOOTING SCRIPT

Finally, I am highly amused by the interest in 'script' languages available for the Mac and PC. Several are hardly any different in concept, structure and sometimes even commands from *Supercalc* .XQT files (which were 'superseded' by Lotus macros), *Newword* mailmerge commands and even the dBASE programming language.

Perhaps choosing a name like 'Power Fields' shows why Lotus is so good at marketing. Now, if Sorcim or NewStar or Wayne Ratcliffe had thought to call their programming languages 'scripts', perhaps things would have been different!

May I say that I appreciate your contributions, especially Circuit City, and your approach to computing in the various contributions you make to the journals I read. Please keep up the good work!



• Lotus 1-2-3. Not as good as Mini Office 2? Biggest doesn't always mean best according to this reader .

COMPUTER BARGAINS

Hercules 12" amber monitor (12v)	£29
Hercules 12" amber monitor (240v)	£49
Amstrad PPC1512 SD (no manuals)	£149
Amstrad PPC1640 SD (no manuals)	£179
Amstrad VGA 12" paper white monitor	£69
Spectrum +2 with manual and psu	£89
Spectrum +3 with manual and psu	£109
Spectrum +2 power supply	£18
Spectrum +3 power supply	£18
Amstrad DMP3000 9pin printer	£69
PC modems (no data, no software)	£18
CCTV systems (inc camera and monitor)	£99
5 1/4" 720K drives	£35
5 1/4" 1.2M drives	£45
5 1/4" 360K drives	£30
PC power supply with fan, on-off switch	£25
3" drives (6128, PCW etc)	£30
Amstrad CPC464 (no manual)	£80
Amstrad CPC6128 (no manual)	£140
Amstrad GT65 monitor	£49
Amstrad SM2400 modem	£99
3 1/2" 180K drives (BBC etc)	£22
3 1/2" 1.44M drives	£39
PC1512DD inc colour monitor	£245

SCS COMPONENTS
218 Portland Road Hove Sussex BN3 5QT
All prices are subject to VAT plus £2.50 P&P
Telephone orders: 0273 770191 Fax: 0273 23077
Visa/Access (Trade enquiries welcome)

◆ ST

PUBLIC DOMAIN software for the Atari ST. Only £1.75 including postage, clip art, games, utilities, exclusive samples, demos, slide shows. Send SAE +50p for catalogue to Mr. G. Ogden. Nightshift. 8 Bertelin Road, Stafford, ST16 3JS.

ATARI 1040 STFM, 2nd drive SM124 mono monitor, Epson LX800 printer, loads of serious and games software, books and magazines, approximate value £1800. Sell for £600 o.v.n.o. Phone 0734 760086 after 5pm.

GAME Makers manual by S. Hill, for ST. £4 + post. (03985) 438 or write:- 2 Town Mead, Oakford, Devon, EX16 9EW.

ST GAMES for sale: prices from £1.50 to £5. Write to Alan Roberts, 16 Livesey Avenue, Ludlow, Shropshire, SY8 1HN.

4MB on your STE for £100. True 4 x 1Mb 80NS Panasonic Simms. For direct plugging in, ring MIke on 0889 574070 (Staffs).

WANTED Spectre GCR, must have Mac Roms ad preferably SYS/Finder disk. Consider Mac software as part of package deal. Phone Paul after 7 or weekends. 0332 41630.

ST ADVENTURERS, PDL, games, maps, editors, solutions + full PD range (over 600 disks!) £1.50 inc p/p. SAE or blank disks to:- J. R. Barnsley, 32 Merrivale Road, Rising Brook, Stafford, Staffs, ST17 9EB.

LOADS of PC goodies for sale. Drives, screens, systems, boards, modems. Send a SAE to: Max, BBS, 39 Tetbury Drive, Warndon, Worcester, WR4 9CG, or call 0860 891893. BBS 0905 754151.

STE, 1 year old, excellent condition, 28 games inc Atari power pack, STOS and Quartet mouse and joystick, 4 player adaptor. Contact Rhod on (0222) 702940 after 6pm. £300 o.n.o.

PUBLIC domain software for the Atari ST, only £1.75 including postage, clip art, games, utilities, exclusive samples, demos, slide shows. Send SAE + 50p for catalogue to: Mr Ogden, Nightshift. 8 Bertelin Road, Stafford, ST16 3JJ.

THE CHIP SHOP
(SEMICONS) LTD.
Semiconductor Supplier

Computer systems to order - or build your own!
Memory upgrades for most computers. e.g.
Amstrad 1512 - from £13.00 inc. p+p & VAT
Full range of popular memory and semiconductors
available - send S.A.E. or phone for list.

UNIT 5, ROYAL OAK TRADING ESTATE,
COOPER STREET, OFF HIGHER HILLGATE,
STOCKPORT, CHESHIRE SK1 3QJ
Telephone: 061-476 3070 Fax: 061-476 3114

IBM parts, huge quantity. XT, AT, PS/2. Also modems, memory etc. IBM XT 10Mb, 640K, 6Pak green screen. £240. Phone Chris (0424) 718951.

ATARI ST hard drives, various types and sizes, 20 meg, £250. Megafile 30 £350. 43 meg, 65 meg £500. 155Mb tape streamer. £600 all very good condition. (0495) 272 092

ATARI 520STE + software, 8 months old. Genuine reason for sale. £175. Tel 0324 33446.

ATARI 520STFM only eight months old with DTP and loads of accessories. £200. Citizen 120D 9-PIN printer, mint condition. £110. Sony CCD-F500E Camcorder, one year old with luxury case and tripod. £650. 0623 861158.

ATARI Mega 4 ST, £350, + your 1040 STFM Simular, 43 meg hard drive for ST, Hawk Colibri scanner, HPGL Plotter Internal, 1 meg drive upgrade. £32.50. SLM804 Laser printer. Consider cash + your own printer. (0495) 272092.

WANTED: Megafile 30 in exchange for Olympus OM40 camera kit, valued at £280 by London camera exchange. Will also consider Scanner, Digitiser, Deskjet printer or sell for £200. Phone 0275 375496 after 9am.

ATARI 520STFM, only 5 months old, 29 original games, over 30 magazines, 24 magazine disks, 12inch which are games, new joystick, plus more extras. £200 for quick sale. Phone before 12pm or anytime through weekend. 440 4133. (Midlothian, Scotland).

520STFM 1meg memory, double sided drive, over £1000. Quality software including many recent releases eg Armour-Geddon, Killing Cloud, 3-D Soccer. Also includes Jet Fighter joystick, mouse and mat. £400. Phone (0270) 501466 after 6pm.

ATARI 1040STFM with green screen monitor, track ball mouse joysticks, over hundred magazines, 200 disks with games and other programs. £280. 071 937 6493 evenings. Peter Kensington.

720K 1/3rd high disk drive, suitable PC or Atari ST upgrade. £30 floppy disk controller card. £8 Atari TOS 14 ROMS, (six) including fitting instructions. Tel Pete. 03322 662747 Swanley.

ScotSoft
International

Only the *elite* Atari ST public domain software is stocked at ScotSoft. Our extensive catalogue includes over 50 D/S disks of *exclusive* clip art, ported from the Mac. So what do you expect to pay for exclusive disks ? Same as always - just £1.49 each. Join the merry band of hundreds of satisfied customers today. *«Special offer»* : 10 blank branded disks for £5.99 (Sony)

New Computer Express readers are privileged to be the first to read about ScotSoft's latest collection - *'The Dirty Half Dozen'*. 6 crammed D/S disks filled with over 7Mb of the very best in ST PD software - that's over 500 files ! Disk #5 is reviewed in this weeks PD Column. Absolutely astounding value at just £9.99 inclusive.

ScotSoft International. Dept NCE3. 47 Auchingane. The Tryst. Edinburgh. EH10 7HX. Send three first class stamps for the easy-to-use disk catalogue. today.

ATARI STM, 1 Meg RAM, 2 D/S drives. £210. SLM 804 Laser printer, £490. Atari SH205, 20 meg hard dirve, £190. Golden Image scanner + Touch-Up software, £110. Kaga 810 9-PIN printer, £60. All in excellent condition. Tel 071 586 6155.

4 MEG STE, 48 meg hard disk, 2nd floppy, colour and mono monitors, lots of games - Pagestream, Protext, Superbase II, Quartet II, F19, magazines with disks + loads of P.D.L shareware, guaranteed to Nov 91. Cost £1200. Phone Martin. 0352 770049.

ATARI ST public domain at £1 per disk, send disks and SSAE to Stuart Woodhead, Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey, CR5 IEF. We may not be the biggest but were the cheapest library around!

520ST for sale, good condition, 6 months old, drive 1 meg, 100+ disks. Open to offer, may swap for IBM compatible. Call James on (0455) 851903.

ATARI megafile 30. 30Mb hard disk, has had home use only. Sale due to move to PC. £275. Tel 0529 304221.

STAR LC-10 mono 9-PIN printer, boxed £110. Electrohome EGA monitor for ST, Amiga, IBM etc. Not as good as Atari monitor, but better than TV. £600. Tilt + swivel monitor stand £10. Also game and serious software. 081 462 7668.

ATARI ST software, 30 games eg, Sim City £12. Untouchables £8. Powerdrift £7. Wizball £4. Pro Punter, PC Ditto £30. GSTC £10. Utilities plus £15. ST Basic book £5. All originals and boxed. Call Malcolm (0460) 72711.

ATARI STE, mouse, joystick, built in modulator + leads, games over £100 worth, + serious software etc, manuals, all leads, £150. no offers please, may exchange partly for any Atari/midi gear. (0484) 541357 anytime.

ATARI ST wanted for spares. Any condition considered, up to £50. Will collect. Also wanted Hi-Res monitor and second drive, in good condition. Phone Sheffield (0742) 401983.

ATARI 520 ST for sale. 1 meg double sided drive. £550 of good games, only £200 for the lot. Plus £15 p+p. Call Tim on 0424 216323.

Sharow Electronic Supplies
COMPUTER SALES - REPAIRS
Access/Visa most welcome
Phone us on 0765 607887 anytime

◆ AMIGA

F19 Stealth Fighter, Full Blast Compilation, Advanced Destroyer Sim, £12 each or Chaos or any CCS War game. Also for sale, Avalon Hills Storm over Arnhem (unplayed). £15. Tel (0263) 513503.

WANTED cheap printer for Amiga. Also copy of work bench 1.3 disk. I am desperate please help. Please phone (0742) 457456 evenings. Thank you.

AMIGA blitz copier hardware and software, unwanted gift as new apart from testing only. £15. Tel 021 443 1265.

SAM COUPE AND SPECTRUM MAGAZINE!
PROGRAMS, UTILITIES, INFO IDEAS! NEWS,
"OUTLET"
GRAPHICS, AND HELP PAGES, SERIOUS SOFTWARE
REVIEWS AND HOMEGROWN SOFTWARE MONTHLY SINCE 1987!
SPECIAL OFFER! Latest issue £2.50 to newcomers on:-
+3, DISCIPLE/+D, MICRODRIVE, OPUS, TAPE, SAM DISC
CHEZRON SOFTWARE, 605 LOUGHBOROUGH RD., BIRSTALL, LEICESTER LE4 4NJ

AMIGA software for sale. All originals, Barbarian II, Iron Lord, Warhead. All for £19.50. Thats only £6.50 each. Call 0634 378279. Ask for Neil, be quick.

AMIGA 500 1.3, Workbench games, manuals, Deluxe Paint 2, magazines, many blank disks, £240. Call Allan (N. Wales). (0745) 824535 between 4 and 6pm.

CHEATS, Playing Tips, Maps, Full Solutions etc. Hundreds available. Send a list of the games that you want cheats for (and a stamp) to Emelgee, 2 Commonside, Hanging Heaton, Batley, West Yorkshire, WF17 6EB.

RENDALE 8802 Genlock for Amiga unused cost, £180. Will accept £100, with full control software disks. Tel 0772 716965.

MUSICIANS, quality samples for Amiga users. Send tape, disk(s), instructions, SAE and £1 to 151 Rough Common Road, Cantebury, Kent. Remember, + quality = + disk space. Don't forget to say what you want sampled, other services available.

10 DISKS of Amiga PD clip art. All disks are full and virus free, quality media. I'll pay p+p. Also 5 disks of PD fonts (mono and colour) suitable for DPaint etc. £3.75. Tel (0636) 71275.

MAGAZINES ST/Amiga Format 1-13 no disks plus Amiga Format 1-23 with all disks, make an offer, buyer collects or pays postage. (All in good condition). Phone (04023) 81033 (Essex).

Let this advertising space work for YOU!!
For only £61
Contact Charlie Nicholls
on
0225 442244

AMIGA A500, one meg with clock, second drive, plinth, modulator, mouse and all leads. Stacks of software, including Devpac 2 and 5 systems manuals. All items in quality condition. Contact Julian on (0572) 756999.

AMIGA games for sale, Powermonger, Italy 1990, Back To The Future II, Days Of Thunder, Drum Studio, Emlyn Hughes, Cadaver £30 for all power basic + Home Accounts. £30 for both. All originals, excellent condition. Paul (0532) 429385.

40 MEG GOLGM hard drive, Amiga software formatted ready to use, will format for other machines, but will require reluctant interface. £300. Buyer pays postage. 0263 720900.

AMIGA standard Agnus plus game £15. Kickstart 1.2 plus game £15. Standard Mice £8, Bantam AmigaDos manual 2nd edition £10. All plus p+p. Contact Viper 0473 713715 between 6-9pm only. No time wasters please.

AMIGA hardware, Internal Spirit board with own 6800 expand upto two meg, 1/2 meg, one meg, two meg, manuals etc with it. £40. Also software Obitus, Awsesome Monster, Amiga pack, Spellbound, Menace. Norman 0245 352538.

AMIGA games for sale, Hard Drivin, Manhunter 2, The Third Courier, Buffalo Bill's Rodeo games and Milestones (inc Grand Monster Slam, Circus Attractions, Spherical and Hard N' Heavy). £250 o.n.o. Phone (0462) 731685. Ask for Ross.

AMIGA 1.3 10845 colour monitor, two extra disk drives, loads of original software, books, disks as new, boxed. £550 o.n.o. Reading 0734 665842.

AMIGA machine language book by Abacus. £10, Tel (0925) 225422. Paul Wilson.

MODEM hard disk drive and 24 PIN printer, wanted for Amiga. Phone 0782 612393.

WORD PERFECT for Amiga, as new, unwanted gift. £70 or swap for Protext v5. Call (0865) 58531 and ask for Dave.

AMIGA PD wanted, send disks, lists to Dave, 2 Staithes Road, Redcar, Cleveland, TS10 5DU. SAE = 100% reply.

FOR SALE, Amiga Digi View Gold 4.0 new £70. Vidi Amiga and Vidi Chrome plus splitter £90. Ex copy professional and hardware £20. ASS Amiga boxed games, original £5 each. Phone 0827 51738.

AMIGA one meg 2nd drive, Star LC10 mono printer, truemouse and mat, three joysticks, masses of software, disk storage box and printer paper. Buyer collects. £430. Call Max on (0532) 434054.

FOR SALE Amiga A500, The Ultimate pack for games, like Final Whistle, Fighter Bomber. Sound sampler plus software. Digitising and splitter plus software programming. Software plus a bit more. (Boxed). £60. Phone Matt (0920) 467982.

SOUTH WEST PD
Atari ST/STE Public Domain from only 66p a disk
Special Offer: We will pick a random 30 disks from our extensive collection and send them to you for only £20.00. Please state ST/STE/½ Meg/1 Meg/DS/SS disk drives, and disks you are mostly interested in i.e. demos, clip art.
Free catalogue with SAE to:
SWPD, 50 Coombe Lane, Torquay, Devon, TQ2 8EA

WANTED cheap external disk drive for Amiga 500. Must be working with all leads. Will pay up to £25 depending on condition. Phone (041) 339 3009 and ask for Stephen.

FOR SALE Amiga A500, 2nd drive, 2 mice, 2 joysticks, 200 + disks and other hardware, plus free Sega Master System. Amiga needs new internal drive, hence only £350 o.n.o. Phone Karl 0296 395378 after 5.30pm. Thanks.

GVP A3004 28MHz 68030 card for A2000. 4Mb 32BIT RAM. 40Mb Quantum 11Ms AT hard drive. 68882 FPU. Boxed and as new. £1300. Will give demo and install if necessary. Tel 021 779 3399.

AMIGA for sale. Fully boxed, six months old, with over £200 of software inc top titles like, Toki, Robocop 2, Speedball 2, Kick Off 2, plus many more. All fully boxed, worth £700. Sell for £325. Phone 021 357 5165.

WANTED all Devpac files from Stampede Amiga (now rampage), and other MC routines that you have! Phone Ben (0476) 65739.

AMIGA PD 80p per disk which includes p+p. Catalogue disk, 80p with free PD, including Humaniod Cry baby demo ST, Amiga, Spectrum originals from 50p! Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, KIngs Lynn, Norfolk, PE32 2QQ.

AMIGA A500 one meg, 3 months old, original packaging, receipts and guarantee, £250. Panasonic KXP1124, 24PIN printer, 22 months old. £150. Both as new with manuals, disks, adult use only, upgrade necessitates sale. (0953) 607743.

HAVE you seen the Amiga Notech demo? Get it from us it's stunning! All our disks 85p inclusive, send 50p and choose our printed or disk catalogue. Perspective PD, 6 Clover Close, Cumnor Hill, Oxford,. OX2 9JH.

AMIGA A590 + hard disk, 20Mb, 1Mb RAM, manuals, disks, PSU, boxed, loads of software. £290. Philips AU7300 TV Tuner for Composite monitor, boxed, instructions, £45. Pandaal Daatascan, B+W scanner. £175. I'll pay postage. Neil 051 426 0138.

PBT ELECTRONICS LIMITED
PORT TALBOT WORKSHOPS, Unit 17,
Addison Road, Port Talbot SA12 6HZ
TEL: 0639 885008 FAX: 0639 887170

SAM COUPE computer no drive	139.99	Colour multi dump utility on disk	8.99
SAM COUPE computer + 1 drive	199.99	Parallel printer cable SAM/+D	7.99
SAM 1Mb memory pack	79.99	Parallel printer cable +2A/+3	7.99
SAM disk drive	79.99	SAM scart cables	9.99
SAM 256K expansion	39.99	SAM midi cables	7.99
SAM comms interface	29.99	SAM dual joystick adaptor	8.50
SAMbus includes real time clock	49.99	Plus D/BBC dual drive adaptor	14.99
Printer switch A+B	23.95	3.5" DS/DD disks box of 10	6.49
SPI printer interface for SAM	19.99	3.5" disks loose in 10's	3.90
Voice Box allows SAM to speak	39.99	3.5" lockable boxes 40 cap	4.99
SAM sound sampler + microphone	49.99	3.5" lockable boxes 80 cap	6.99
Citizen 120D + parallel printer	140.99	Tractor feed paper 2000 sheets	21.99
Citizen 124D + parallel printer	195.50	SAM tech manual	16.99
Citizen Swift 9 colour printer	195.50	Master DOS	15.99
Citizen Swift 24 colour printer	295.50	SAM midi sequencer	32.50
Mannesman MT81 parallel printer	135.99	120D ribbons	4.69
Star LC10 ribbons black	6.19	Star LC10 colour ribbons colour	8.29
Mannesman MT81 ribbons	4.99	Citizen Swift colour ribbons	14.99

ALL SAM SOFTWARE AVAILABLE. PLEASE RING FOR PRICES

All prices include VAT - Postage Printers/Computers £5.00. Postage all other products £1.00

DISK DRIVES PLUS D AND DISCIPLE INTERFACES REPAIRED, PLEASE RING.

◆ PC

SUPERCHARGE your PC! 40 meg HDD, £115. MFM controllers, £20. Orchid Turbo card, £50. XT Keyboard, £20. PC Case, £15. Serial ard, £20. Mono-Parallel, £20. Serial cards £10. Maxit Memory card, £40. Phone Nick 0438 816210.

PC GAMES for sale from £2.50: Fergus 'J' Paget, 503 Kingsbury Road, Erdington, Birmingham, B24 9NJ. (SAE please).

IBM AT Clone, 12MHz 286, 640K RAM, 20 hard disk, 3.5 inch and 5.25 inch disk drives, Hercules Graphics card, mono monitor, manuals, lots of software. £450. Phone 0689 843561. Croydon.

AMSTRAD portable PPC512 double 31/2" drives and monitor. Quick sale. £200 o.n.o. Tel Fahim on (041) 339 2200 now.

750 PC shareware programs/files compressed on to 12 5.25 disks. Pkunzip and instructions on first disk to explode rest. £12 inclusive. Details: Paul Trainer, 1 Montague Gardens, Leeds, LS8 2RN. Tel 0532 498985 evenings please.

AMSTRAD PC 1640, 20 Mb hard disk, colour monitor, mouse, disks, exellent condition throughout. £350. Reading (0734) 665842.

AMSTRAD PC1640 DD, mouse, k/b, mono monitor, £150. 10Mb shareware inc. Tel (0727) 837793.

16/32 PDL
(NCE),
35 Northcote Road,
Strood, Kent,
ME2 2DH

16/32 PDL is a PD library run by enthusiasts for enthusiasts with extensive collections of Amiga and ST Public Domain. We are Affiliate Members of the British Association of Computer Clubs and also the 'C' User group library. *Send £1 for catalogue disk stating which machine or an SAE for latest update.*

APRICOT owners manuals, any offers considered. Tel Nottingham. 0602 871413, during office hours.

WANTED portable/Laptop. Must be battery/mains, VGA, hard disk, swap for my Amstrad PC286 with High-Res 14" VGA colour monitor, 40 meg hard disk, 51/4 and 31/2 drives and mouse. Nottingham 0602 261498

286-12 AT systems unit 1.44 meg floppy drive, 2Mb RAM, two serial, one parallel port, VGA card, six months old. £280 o.n.o. Tel 081 903 4067.

DEC Rainbow PC100+ hard disk, twin floppies some software and manuals, also wide carriage LP100 printer. £200. Would swap for A4 scanner. Phone 081 948 3300..

TESTBOOM LTD Tel: 0695 571605
Fax: 0695 517606
286 from £600. 386 from £800
STE's POA Atari TT's POA Mega STE's POA

CHRISTIAN computer concepts PD library, Christian PD/shareware. £2 per disk inc p+p. No extras, IBM compatible, only 51/4" disks. Write for list:- Ian Hurst, C.C.C., 7 Perrybrook, Walk, Ashton in Makerfield, Wigan, Lancashire, WN4 8TR.

PC EQUIPMENT for sale. Compaq 1.44Mb 31/2" disk drive, £125. Seagate ST-125 20Mb hard disk. £95. Compaq VGA display card, £95. Geniscan G54500 scanner (unused) £110. Dbase III plus (unused) £250. Tel (0268) 734856.

286/16 MHZ AT with 1Mb RAM, encased in high quality led display case. One internal disk controller card, with 102 key keyboard. £350. Compaq VGA display card. Also availble. £85. (0268) 734856.

LAPTOP Tandy 1100 FD, fully IBM PC compatible, 640 K RAM, 720KB floppy, excellent screen, very compact, notebook size, software and manuals included, reluctant sale, £600 o.n.o. Phone Greg on Bradford 0308 23636.

AMSTRAD 1512DDCH, boxed and in excellent condition. 32M hardcard and much software inc. Database III + Word Star, Supercalc, Fleet Street, PC Tools, Norton etc. £500 o.n.o. Telephone 0475 45462.

COMPAQ 286, 640K RAM, 20 meg hard disk, two 5.25 inch disk drives, 5 expansion slots, MSDOS 4.0, lots of software. £650 o.n.o. Phone 0689 843561. Croydon.

WIN WIN WIN WIN WIN WIN WIN
WIN!
A MEGA MAIL ORDER VOUCHER
DIAL: 0898·886·200
CALLS CHARGED AT 34P/45P A MIN. UOD LTD, CA2 5BB

OUTER LIMITS PD
Opening Soon.
Wide range of PD S/W for the Amiga at very competitive prices.
For more information call
TEL: 061-225 4570
Our prices are 85p per disk.
The more you order the cheaper it gets!
We are also supported by the Crusaders.

◆ 8-BIT

ATARI 8-BIT printers 1029 £70. 1027, £30. 822, £40. Atari 400, £30. Atari 800, £40. Trackerball, £10. ROM's from, £4. Loads of other bits. 051 632 3515.

AMSTRAD CPC464, mono monitor, TV modualtor, disk drive, loads of software, many extras, (multiface, joystick etc). All excellent condition, bargain only £175 o.n.o. or swap for Seag megadrive or Amiga 500 hard dsik. (0480) 61253.

BBC B issue 7 DFS. ROM/RAM expansion. Recently serviced with recorder, books and games. £220. Philips green screen monitor £40. Teletext adaptor, £35. Tel 0282 74313.

COMMODORE 64, disk drive, CZN tape deck, expert cartridge, all leads and cables, plus lots of disks, £200 o.n.o. or PX for Philips monitor, Amiga compatible. 0532 434489, after 6pm.

SPECTRUM helpline, hints, pokes and tips for virtually any game. Your money and postage refunded if I can't help. 30p per query. (Please include SAE) Jon Rose, "The Annexe", 26 Barrack Lane, Bognor Regis, W. Sussex, PO21 4DA.

SINCLAIR Spectrum +3, manual, 2 joysticks, PSU, cables, some disk games, 380. Wanted: Amiga A500, 3200. CM8833, £100. Must be very good condition and complete with manuals, cables and pugs! Richard (0573) 26032.

.... COMPUTERS ....
For probably the best prices and deals on Home and Business Computers, Acorn, Archimedes, Atari ST's, Lynx, Commodore 64's, Amiga's, Amstrad, Star, Citizen, Canon, Panasonic, Sega, Nintendo Consoles. Plus printers, disk drives, monitors, memory upgrades and accessories etc. Great deals on PC's.
* FAX M/C's * ANSWER M/C's * PHONES *
Joysticks from £4.99 Blank disks 5.25", 3.5" 3"
SGM ELECTRONICS
19 Charles Street, Wigan, Lancs, WN1 2BP
Tel: (0942) 321435 Fax: (0942) 821273
Mon-Thurs 11.00am - 9.00pm
Fri - Sat 11.00am - 7.00pm or later
Repairs to most makes of computers

TWO Palm-Top Epson HX-20 computers. One with case, one without, but with 16K expansion, both have built-in printers, and in excellent condition. £45 each, plus postage. Tel Woking (0483) 764857.

ORIGINAL Spectrum 128K man wanter. Also 48K power supply wanted, write to K. Snowdon, 6 Glebe, Terrace, Dunston, Gateshead, Tyne and Wear, NEII 9NQ.

PHILIPS NMS 8245 M5X2 (256K) built in double side disk drive, battery back-up, clock etc., plus manuals, mouse, 2 carts and disks. Very good condition. £2.50 o.n.o. Tel (0484) 652855 after 6pm. Ask for Mark.

CPC 6128 games disks and cassette, books, magazines, swap for serious disks, educational or board games, bridge. SAE for list. Tel 0895 53011.

AMSTRAD 6128, colour monitor, tape recorder, disk and tape software, multiface, joystick, dust covers original boxes, manuals books, magazines. All very good condition. 3220. Can deliver within reasonable distance. Tel 081 697 0556 anytime.

SPECTRUM +2 for sale. Manual joystick, light gun and all leads included. 18 months old, in good condition. Boxed, over £400 worth of games and magazines.£200. Phone 049481 3887. Must collect unless in Wycombe area.

WANTED C64 or 128 computer C64 disk drive. Must be in excellent condition. Ring Arran on 0482 445867.

COMMODORE 64 cassette software collection for sale. All £1 each. First come first served. Only one of each. Send for list. SAE to: Software Sale, 26 Hillcroft House, Seedley Road, Salford, Greater Manchester M6 7BT.

SPECTRUM +3 and Spectrum 48K, manuals, speed controller, over 30 games, tapes and disks, 12" colour TV/monitor. £180 the lot o.n.o. Phone Oxford. 553430.

CBM 64 super help cartridge, 20 new commands, m/c monitor, assmbler dis assembler, and more. Needs disk drive for assmbler, sell for £12 inc p+p. Used once 51/4 disk cleaner, new. £3. Neil 051 4260138.

AMSTRAD CPC6128, colour monitor, disk drive, pus data tape recoder, joystick, manual and wide range of software. £240 o.n.p. Wynn Rees, Winchester. 0962 712004 evenings.

C64, disk drive, printer, tape deck, joystick and mouse, two word programmers, two graphics and spreadsheet plus more, about 80 games for £295. Phone Nick on 0460 73588.

C64 CPC soft, hardware for sale. SAE to: Arthur Brympton Cottage, Brunswick Road, Worthing, Sussex, BNII 3NQ.

ATARI XE £100 worth of cassettes, printer, light gun, XC12 data recorder, £180 o.n.o. Write to A. Gilbey, 1 Eastbrook Avenue, Dagenham, Essex, RM10 7UL.

ATARI 8-BIT printers 1029 £70. 1027, £30. 822, £40. Atari 400, £30. Atari 800, £40. Trackerball, £10. ROM's from, £4. Loads of other bits. 051 632 3515.

AMSTRAD CPC464, mono monitor, TV modualtor, disk drive, loads of software, many extras, (multiface, joystick etc). All excellent condition, bargain only £175 o.n.o. or swap for Seag megadrive or Amiga 500 hard dsik. (0480) 61253.

BBC B issue 7 DFS. ROM/RAM expansion. Recently serviced with recorder, books and games. £220. Philips green screen monitor £40. Teletext adaptor, £35. Tel 0282 74313.

TWO Palm-Top Epson HX-20 computers. One with case, one without, but with 16K expansion, both have built-in printers, and in excellent condition. £45 each, plus postage. Tel Woking (0483) 764857.

BBC MASTER 128K, genlock and dual 80T disk drives in plinth. £300 o.n.o. Philips CM8852 colour monitor, £170 o.n.o. Steve 0273 557782.

ORIGINAL Spectrum 128K man wanter. Also 48K power supply wanted, write to K. Snowdon, 6 Glebe, Terrace, Dunston, Gateshead, Tyne and Wear, NEII 9NQ.

ARCOM COMPUTER SERVICES
IBM PC - NINTENDO - SEGA - ATARI - AMIGA
GAMES AVAILABLE FOR ALL MACHINES
IN ALL FORMATS AT GOOD PRICES
JOYSTICKS DISKS SOUND CARDS
FOR MORE DETAILS: ARCOM COMPUTER SERVICES
Alice House, 10 High Street, Ashwell, Herts. SG7 5NL
OR CALL 046274 2024 PRICES INCLUDE DELIVERY & VAT

FOR SALE CPC6128 with joystick, multiface 2, colour monitor, manual, books, magazines, tape lead, disk box, business package, datacorder, £350+ worth of games. Worth £800 + only £350. Buyer collects. Ring 051 625 8994 between 10am and 7pm.

GAMES for the Speccy from 50p each. Also you are entered into a free prize draw. Write to 4 Albert Road, Grappenhall, Warrington, Cheshire, WA4 2PG. For a price list.

SAM COUPE 256K with internal disk drive, technical manual, assembler. ROM upgrade and external disk drive/printer interface, includes all leads, Spectrum Emulator software and some Spectrum games. £120. Tel (0609) 778613 (North Yorks).

AMSTRAD CPC6128 computer with colour monitor, Panasonic KXP1081 printer, second disk drive, WP, DTP art games, utility software, plus lots more unable to mention. Worth over £1300. Sell £800 o.n.o. Phone Jonathan Hawkins. (0296) 622105 evenings.

READ THIS! Amstrad CPC6128 with loads of goodies for sale, worth over £1700. Will split. Phone 0924 251608, after 7pm for a free price list. Ask for James.

PHILIPS NMS 8245 M5X2 (256K) built in double side disk drive, battery back-up, clock etc., plus manuals, mouse, 2 carts and disks. Very good condition. £2.50 o.n.o. Tel (0484) 652855 after 6pm. Ask for Mark.

COMMODORE 64, disk drive, CZN tape deck, expert cartridge, all leads and cables, plus lots of disks, £200 o.n.o. or PX for Philips monitor, Amiga compatible. 0532 434489, after 6pm.

SPECTRUM helpline, hints, pokes and tips for virtually any game. Your money and postage refunded if I can't help. 30p per query. (Please include SAE) Jon Rose, "The Annexe", 26 Barrack Lane, Bognor Regis, W. Sussex, PO21 4DA.

SINCLAIR Spectrum +3, manual, 2 joysticks, PSU, cables, some disk games, 380. Wanted: Amiga A500, 3200. CM8833, £100. Must be very good condition and complete with manuals, cables and pugs! Richard (0573) 26032.

CPC 6128 games disks and cassette, books, magazines, swap for serious disks, educational or board games, bridge. SAE for list. Tel 0895 53011.

AMSTRAD CPC6128 colour monitor, one month old, cost £400, sell £300 o.n.o. Lots of games etc. 11 months guarantee left. Tel 0224 696172 (Derek). Will pay postage U.K.

CBM 64 super help cartridge, 20 new commands, m/c monitor, assmbler dis assembler, and more. Needs disk drive for assmbler, sell for £12 inc p+p. Used once 51/4 disk cleaner, new. £3. Neil 051 4260138.

SUPER Famicom Scart, £230 o.n.o. Phone 0403 61899 evenings or weekends.

SUPER Famicom for sale, brand new, with Actraiser, Pilot Wings, Final Fight Augusta, 30 Polgon Golf, Scart version with stereo sound, still boxed and under guarantee. Phone Andy 0564 772476. Can deliver. £250 o.n.o.

X-Press PD CLUB
All latest titles available - £1.00 per disk, postage and packaging free.
FREE membership with 1st purchase. Regular competitions held, including our very own Kick Off League.
Below is a small selection of titles available from our large stock.
Discounts for orders over £20.00
Chubby Brown (1 Disk) - Comedy **Flash Queen** (2 Disks) - Music Sample
Definite Docklands (1 Disk) - A must for 'Jarre' fans
Groove Is In The Heart (1 Disk) - Music Sample
Holy Smoke (1 Disk) - Loads of Utilities
Kylie Minogue (2 Disks) - Excellent samples and Slide Demos
Madonna (4 Disks) - Vogue Sampler
Not the 9 O'Clock News (2 Disks) - Gorilla Sketch
Samantha Fox 2 (1 Disk) - Slideshow (18+) **Star Trek Trivia Quiz** (1 Disk) - Game
We also supply sound tracker samples, T-Bag disks and our own disks and demos.
Send S.A.E. for catalogue or blank disk for disk magazine.
Please send to:- **K.Larkin, X-Press PD, 12 Hathaway Court, Cheriton Road, Gillingham, Kent, ME8 0ES. Tel: 0634 30638**

◆ CONSOLES

MEGADRIVE games for sale or part exchange some old, some new. Phone 0403 61899 evenings and weekends.

CORE GRAFX (Grey, PAL, PC Engine) boxed with joypad and Super Star Soldier, Splatterhouse, Jackie Chan, Ordyne and Legendry Axe 1 and II, worth £375. Will sell for £225. Tel (Tonbridge) 0732 810846.

FOR SALE Nintendo Turtle pack with 2 extra games, Super Monaco 2 and Castle Mania game, all leads and Turtles game £100 to £125. Call John on 0698 63748. All week after 5pm. Must be able to collect.

GAMEBOY pack + four player adaptor and F-1 race boxed as new. £40. Phone 081 808 6268 between 4 and 8, ask for Dominic.

SUPER Famicom Scart £230 o.n.o. Megadrive games, sale part exchange Master system with six games £100 or swap? Phone 0403 61899 evenings or weekends, not Wednesdays.

ATARI Lynx (boxed). Still under warranty, with three games, Blue Lightening, California games, Klax, plus two sets rechargable batteries and recharger plus head phones worth over £200. Sell for £140 o.n.o. Phone Peter on (0733) 233314.

SEGA MEGADRIVE, six months old, 7 great games, joypad and arcade power stick runs UK, US and Jap carts. All boxed as new, £250 o.n.o. Tel (0709) 375869. Also Atari STFM for sale. £200 o.n.o.

NINTENDO gameboy, AC adaptor and tennis game for sale. £100 the lot. Write to: John Hughesman, 50 John Kennedy House, Rotherhithe Old Road, London, SE16 2QF. Tetris with pack.

◆ PRINTERS

SHARP JX-9500 Desktop Laser printer, 512K RAM, 300DPI, Emulates HPL2, Epson etc. Still under guarantee, cost £1029, best offer secures around £700. Phone Michael on 081 504 4177.

SAVE OVER £500.00
Commodore PC20
VGA COLOUR, 20MB HARD DISK,
1 YEAR ON-SITE SERVICE, FREE
IBM COMPATIBLE
SOFTWARE £495.00
LIMITED STOCKS
Cerac Computer Supplies Ltd
53 Woodcote Road, Wallington, Surrey
Tel: 081 647 5636 Fax: 081 773 4721
Price excludes VAT.
Please add £25.00 + VAT carriage.

DISKS

FUJI Bulk

+p&p

3.5" DSDD	5.25" DSDD
50 = 35p	50 = 24p
100 = 32p	100 = 22p
250 = 31p	250 = 21p
500 = 30p	500 = 20p

from only 20p

Compiler Computer Products
88 Heming Road, Washford Ind. Est., Redditch, Worcs, B98 0EA
Tel: (0527) 510725

LASER printer; good condition. £495. Tel 081 995 0316.

PRINTER 9PIN Mannesman Tally, Dot Matrix, wide carriage, Desk Top printer, ideal for spreadsheet work, serial interface. Large and no manual, hence £40 o.n.o. Phone 0925 754816 after 6pm.

PRINTER 9PIN Dot Matrix, NLQ/Draft Tractor Feed, Serial x Parallel Interfaces, Emulations, inc Epson (MT 160L). Phone 0925 754816 after 6pm.

EPSON LQ1050. Letter quality 24PIN, 32 Colour printer. Push feed tractor unit with optional single sheet feeder, two built in LQ fonts and additional font cartridge, very fast 264 CPC. Superb value. £350, including manuals. (0268) 734856.

SHEET feeders for NL-10 and Epson LX-800, £15 each plus postage. Genuine Epson ribbons for LX/FX/MX, £2 each. Tel Woking (0483) 764857.

QUME manual wanted for model 12 Sprint Daisy Wheel printer or telephone help please. Phone Andy after 6pm. 0604 494859.

IBM XL24 Dot Matrix printer, £250. Brother HL-8C laser £600. IBM 4216-020 laser. £600. MT 490 Dot Matrix heavy duty. £150. all o.n.o. Tel (0727) 837793.

CANNON Inkjet ink cartridge BJ130/E £7 inc p+p. Mono display card with parallel port. £7. Phone Pete 0322 662747.

AMSTRAD DMP2000 printer £75 o.n.o. or exchange for good music keyboard. Tel Guis 0287 650864.

WANTED printer ZX Spedctrum. For sale or part exchange Amstrad Q3500 Printer 0703 269938.

CUT SHEET feeder for Epson TLQ4800. Brand new, no reasonable offer refused GDOS printer driver for Atari ST wanted, Neocept or Turbo Jet please. Phone Pete 0322 662747.

◆ MODEMS

2400 BAUD MODEM for sale, Pace Linnet with Amiga or PC lead with comms Amiga or PC lead with comms softwware (Amiga) and manual. £90. Please contact N. Kadam after 7.30pm. 081 594 0790.

AMR COMPUTER SYSTEMS
UNBEATABLE OFFER
386-20 SVGA COLOUR 44Mb £795

386sx 20MHz IDE	£270	Colour SVGA .28dp	£218
1Mb RAM	£39	Multi-Sync Monitor	£249
3.5" Floppy	£32	HDisk 44Mb 28ms IDE	£129
Case 200W PS	£69	SVGA card 512K	£56
IDE 1S 2P GAME	£25	Keyboard 102 AT	£24

RENTAL COMPUTERS AVAILABLE
READING 0734 668945
DEALER ENQUIRIES WELCOME
All prices exclusive of V.A.T.
Crescent House - 80A, Crescent Road, Reading, RG1 5SP

STAR LC10 printer, great condition, only £80. Nintendo + games. £80. PC Engine, PAL + games, £95. Remote control car, unused, brand new £65. Amstrad 464 (no screen) £50. Write to: R. K., 4B Currents Lane, Harwich, Essex, CO12 3DE.

STAR NL10 printer, perfect condition with manuals £110. 071 9376493 evenings. Peter Kensington.

GOT A SPECCY, then get this VTX 5000 modem, £10. boxed. Works perfectly. Tel (0444) 450454.

PACE LINNET modem with three comms software packs and cable care for Amiga 500, £125 o.n.o. Phone 071 704 6886 London.

PACE LINNET v21/23 modem. As new. £80 o.n.o. Tel 0934 876024.

MODEM Miracle WS4000 v21/23, boxed as supplied new. £50. Phone Mike on 0332 810785 (Derby area).

QUATTRO SB2422 internal modem speeds up to V22BIS comms software inc £170 o.n.o. Tel (0727) 837793.

MODEM Amstrad MC2400 v22 BIS internal PC modem complete with Eazi Link Comms software. £100. Everex Magic 1/0 card clock calendar, 1 serial port, brand new c/with software. £25. 0322 662747.

PACE Husky v21/v23 modem complete with manual, PSU, Amiga lead and software, perfect working order, ideal for Comms beginner. £50 inc postage. Tel 0563 39699.

◆ SOFTWARE

ST SOFTWARE Xenophobe and Toobin, £5 each. Script word processor, £40. Fast Basic manual only £10. Fast Basic (ROM) including manual. Phone Pete 0322 662747.

ORIGINAL Amiga S/W: Battlemaster, Flipit and Magnose, Karate Kid II, £5 each. Operation Tunderbolt, £8 or £20 the lot. Tel Steve (0460) 73723.

CONNECT the ultimate pools system. IBM/compatible stakes from £1.09 to £50.68. Suits any budget, yearly registration. £11.50. Free copy 22p stamp. 50 effective, you'll wonder how you managed without it. B. F. Hallmann, 306 Dallow Road, Luton, LUI ITD. Tel 0582 414260.

C/PM software for Amstrad 8256 Sage Accouts plus Locospell Selec poolswinner. £25 plus p+p. Phone 0268 532082.

ST PD. 80p a disk! Bulk order discount eg 3 disks for £1.60! Send SAE for free list and discount details to: RKL PD, 76 Sunnyside Gardens, Upminster, Essex, RM14 3DR.

16 CLASSIC Amstard CPC software titles, all originals cost £100 +. Sell for £20 including postage, includes Tomahawks, Head Over Heals etc, Contact Matt on (0772) 614110.

VP information database, £30. Supercalc v3, £10. Reflex database, £10. All for PC/1512. Cash or what have you? 0484 650452 Huddersfield.

DATABASES VP information and reflex, £30. Fot the two together IBM/PC, may swap, what have you? Also Postscript Lazer output service. Tel 0484 650452 Huddersfield.

WANTED FOR CASH
We buy/sell P/X & repair IBM's, Amiga, ST, etc.Working or not.
DMR Electronics
0274 817889 or 881308

ORIGINAL CBM s/w: 20 disk programs (inc F.S. II, Gunship, Zork Advs, Datec utiltities, games, series, and others, mainly USA programs) £40 the lot, or may split. Tel Steve (0460) 73723.

CALAMUS fonts (two) not PD, £5 each. Clipart, 1MG Format, £3.50 disk including printout and p+p. Send large SAE for details, 136 Oakdene Crescent, Nineaton, CV10 ODT.

AMIGA originals, Police Quest 2, Chase HQ 2, Flood, Wonderboy, Amos, Off Road Racer, Wings, Shoot-Em-Up construction kit, Blood Money, Lotus Esprit, Xenon 2, RVF Honda, Lost Patrol, Battle Command + many more. All £7. Phone Steve (0525) 373696.

FOR SALE Atari ST games, lots of choice eg, F19, Gods, Turbo Outrun, SQ1, all originals. All in excellent condition. Also PC bits send SAE for lists, P. Chapman, 41 Stylecroft Road, Chalfont, St Giles, Bucks, HP8 4HZ.

AMIGA software swap PD only send disks of PD for 100% reply utiltiies games, demos etc. Adrian Davis, 15 Deanes Close, Dovercourt, Essex, C012 4JH.

ATARI ST games, over 50 original games for sale from £1.50. Please send SAE forlist to 53 Lenaghan Park, Belfast, BT8 4JB.

AMSTRAD CPC software 35 games + utility software. All on disk, £90 o.n.o. 40 games + Mini Office II on tape, + joystick. £50 o.n.o. Andrew Stewart. (099382) 3325. (Oxon).

SUPERCALC v3, £10. Reflex database, £10. VP information database, £30, or all three for £40. Tel 0484 650452 Huddersfield.

PRIVATE collection of PD for sale, send SAE for list to Jackson, 22 Victoria Court, Clifton Road, Worthing, Sussex. (0903) 206748. Amiga only.

AMIGA games for sale. All orignals, still boxed, Lemmings £11. Back To The Future 2 £6. Beast 2 2 £6. Days Of Thunder £3. DP2 £5. Also wanted Elite or any action replay cartridge. Phone Nick: 081 979 5712.

AMIGA software for sale/exchange. Send big SAE for long list, 13 Bournville Lane, Stirchley, Birmingham, B30 2JY. Over 200 bits and pieces, games, etc. Tel (021) 459 7576 after 6pm before 9pm. (Bedtime).

FOR Canon T90 data memory back compiler with interface unit and MSX computer. All as new, reasonable offers please, Ken 061 998 3494.

C64 original software on cassette and cartridge for sale. Over 300 titles. Cassettes from 50p. Cartridges £8. Send SAE for details and order form to: John McClean, 71 Mansfield Crescent, Clarkston, Glasgow, G76 7EA.

C64 orignal software on cassette for sale. Over 200 titles from 20p each! For list, send SAE to: JohnMcClean, 71 Mansfielld Crescent, Clarkston, Glasgow, G76 7EA. Top titles, like creatures, Rick Dangerous II etc.

◆ OTHER

TRINITRON superfine pitch 14" colour monitor, only £80. Ask for Derek on 0905 360174.

AMSOFT CF2 3" disks £15 for ten. Phone 0489 578634.

BBC MASTER 128K + double 40-80T drive + colour monitor, loads of software, manuals etc. £550. Tel 0963 32469 (evenings).

SINCLAIR QL, c/w twin floppy drives, colour monitor, 768K trump card expansion, Psion word processor, spread sheet, database, graphics and other software, books, manuals. All good condition, £195. 021 477 5538 evenings or weekends.

THE FACTORY

153 Silkstream Road
Burnt Oak HA8 0DE
Tel: 081-959 3438

**ATARI ST Memory upgrades and repairs at very competitive prices.
FITTED 520ST to 1 Meg from £50 to 2.5 Megs £145 to 4 Megs £240. Internal 1 Meg Drive Fitted £55. Extensive Public Domain Library, disks from £1.50.
Send SAE and £1.00 for our disk catalogue and utilities.
Plus Software/Hardware Consultancy and Training.**

Spasoft Computer Services

Atari 520STFM Discovery Pack	£269
Atari 520STE Discovery Extra Pack	£289
Atari 520STE Turbo Pack	£299
Atari 1040STE Curriculum Pack & Exclusive STE Starter Kit	£349
Atari TT030/2 2Mb RAM, 40Mb Hard Disk, Colour Monitor	£1999
Atari TT030/8 8Mb RAM, 40Mb Hard Disk, Colour Monitor	£2499
Atari Lynx Console & Paperboy Game	£99
Atari Portfolio Pocket PC	£179
Commodore CDTV & Defender Of The Crown Game	£549
CBM Amiga 512k	£299
CBM Amiga 1 Meg Screen Gems Pack	£359
CBM Amiga 1500 Pack	£649
Philips CM8833 MK2 Colour Monitor	£249
Sega Mega Drive & Altered Beast Game	£139
Sega Game Gear Colour Hand Held	£94
Panasonic KXP1124i 24 Pin Printer	£299

**Phone For Our Trade In Prices. Send SAE For Full Price List.
Make Cheques/PO's To SPASOFT. Send To: Spasoft (E1),
123 Mason Avenue, Lillington, Leamington Spa, Warwickshire,
CV34 7QF Tel: 0926 413706**

THE SPECTRUM games Multiface Pokes book is now on sale £5 over 200 games poked., Write to Ashley Price, 11 Spences Court, Spences Lane, Lewes, East Sussex, BN7 2HE. No need to send SAE's

AMIGA graphic artist/animator wanted to help with Amiga game. Phone Ian 0273 748695 for more details.

TECHNICAL manuals for 3.5 inch disk drives. Citizen Teac Schugart Nec Sony £5 each. Phone 0493 441394.

THE ULTIMATE games machine, Neo Geo (Scart) + Magician Lord + PSV. £340 o.n.o. Ring Kev on 0484 720353.

AMIGA software, 13 games and Devpac 1 assembler all boxed, cash part exchange or swap for anyting Amiga related. Phone Reading 0734 591407, after 5pm.

MEMORY expandor plus (256Kb), for Atari portfolio for sale. £80, plus postage. Ring David between 6pm and 8pm weekdays 0298 27427.

EINSTEIN computer "The Word Processor" by new Miracle software urgently needed. Please phone (041) 620 1408, or write to Stephen Heaney, 5 Groveburn Avenue, Glasgow, G46 7DA.

SHARP ZQ 5200 personal organiser. Will pay £50 if proof of one owner, must be in very good condition. Tel 0928 88942.

WANTED, user manual for Epson PX8 computer. Deane, 18 Tivoli Crescent, Brighton, East Sussex, BN1 5ND.

WANTED: original DOS disk for Apricot Xenxi. Also Apricot manual. Cash paid. Phone 0843 602057. Also external 31/2 disk drive for CBM PC1.

On-line

A breakthrough in MULTI-PLAYER entertainment
Got a modem - Join instantly!
Playing now,
the award-winning adult space fantasy **FEDERATION II**
COMING SOON....The original, the legendary, the classic **MUD**
From the U.S.A. the mind blowing 3D combat flight simulator **AIR WARRIOR.**
FREE Membership as a special introductory offer.
LOG ON NOW TO FIND OUT MORE CALL **081-539 6763**
642a Lea Bridge Road London E10 6AP

OPUS 51/4 dsik drive for BBC complete with manuals £40 o.n.o. or swap for 31/2 for Amiga. Interested, Steve Black, 18 Paul St Lochhelly, Fife, KY5 9AL. Buyer pays p+p! Also Turtles game (Amiga) £8 o.n.o.

COMPLETE disco for sale, Citronic 300 watt stereo deck column, light centre screen, plug bank, mic base speakers. £500 the lot.

SINCLAIR QL 128K computer for sale, two microdrives, Psion software (word processor, database etc). New keyboard membrane £55 inc postage. Boxed with manual and printer label. Write: David, 37 Muirefield Avenue, Swinton, S Yorks, S64 8TF. (swap Amiga DTP)

SWAP my boxed, as new, 6 month old, vidi Amiga + vidi chrome. For your digiview gold 4. Chris, Farnborough. (0252) 373177.

TO SUPPLIERS and importers of I.C's. Can anyone supply one 8350 chip. I cannot find it catalogued in Great Britain. Tel 0232 642687.

SCANNER for sale. Top of the range, Panasonic flat-bed FX RS 506, one year old. Hardly used. Cost me £1,100 yours for just £700. Buyer collects or arranges collection. Phone (Stratford, Warks). 0789 295718.

PSION LZ6L personal organiser with thesaurus, spell checker, 32K RAMpack datapak 64K and mains adaptor, very good condition, still boxed, cost £300. Will sell for £200 o.n.o. Tel 031 664 4650 after 6pm.

SPECTRUM older games, multiafce booklet is for sale. Hundreds of Pokes, just send £5 to Ashley Price, 11 Spences Court, Spences Lane, Lewes, East Sussex, BN7 2HE. No need to send a stamped addressed envelope.

INFOCOM ADVS, Battletech, Sherlock, King Arthur, Zork 3, Borderzone, Noro And Bert, preferably complete ie, all original packaging for Amiga or ST. Good prices paid. Telephone Geof; 0705 412024 (ans).

WANTED sheet feeder for Star LC-10 printer. Send details to J.C. McNeill, 15 Dalnottar Drive, Old Kilpatrick, Strathclyde, G60 5DP.

AMAZING offers on brand new, boxed and unwanted computer stuff, anything you could want, must be here. Phone (0925) 68796 and ask for Dave for details. It's the best choice you'll ever make!

WANTED: Can anyone let me know how to use an Epson HI80 Plotter? Anyone have the operation manual for it? Ring Kevin: 0268 752825. Evenings/weekends

FREE! Reader Ads Order Form

ALL ADVERTS WILL BE PRINTED FOR TWO CONSECUTIVE WEEKS ONLY

PLEASE TICK THE CATEGORY YOU WANT YOUR AD TO GO IN:

☐ ST
☐ AMIGA
☐ PC
☐ 8-BIT
☐ CONSOLES
☐ PRINTERS
☐ MONITORS
☐ MODEMS
☐ SOFTWARE
☐ OTHER

NAME ____________________ TEL ____________________

ADDRESS ____

____

WRITE YOUR FREE AD HERE USING ONE BOX PER WORD IN BLOCK CAPITALS.

Send your reader ads to:
SHOPPING EXPRESS READER ADS,
30 MONMOUTH STREET, BATH BA1 2BW

Terms and conditions

- Sorry, NO trade ads. All reader ads must be from private individuals
- We cannot vouch for the quality of goods and/or services offered in this section. All ads are accepted in good faith.
- We reserve the right to amend or refuse reader ads at our discretion
- No pirated software may be sold through these columns. Any reader being offered non-originals should contact us.
- We cannot guarantee that reader ads will appear in particular issues of Express.
- The following declaration should be signed:

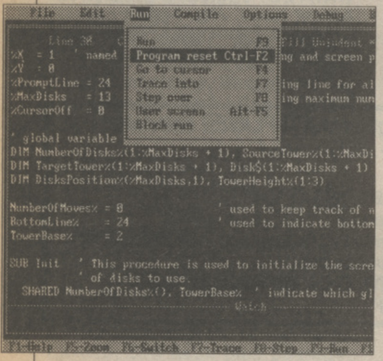
My advertisement conforms to the terms above and is legal, decent, honest and truthful

Signed ____________________

SHAREWARE BROWSING

This week Mary Branscombe gets down to BASICS and shows you how to cut costs by making the most of the latest shareware around

Not all PC programming languages and tools are expensive and there's an increasing amount of shareware around.



```
     Line 38   C                                   Uni:Ment *
%X  = 1   ' named                ng and screen p
%Y  = 0
%PromptLine = 24                 ing line for al
%MaxDisks   = 13                 ing maximum num
%CursorOff  = 0

' global variable
DIM NumberOfDisks%(1:%MaxDisks + 1), SourceTower%(1:%MaxDi
DIM TargetTower%(1:%MaxDisks + 1), Disk$(1:%MaxDisks + 1)
DIM DisksPosition%(%MaxDisks,1), TowerHeight%(1:3)

NumberOfMoves% = 0                 ' used to keep track of m
BottomLine%    = 24                ' used to indicate bottom
TowerBase%     = 2

SUB Init   ' This procedure is used to initialize the scre
           ' of disks to use.
  SHARED NumberOfDisks%(), TowerBase%  ' indicate which gl
```

• **Power BASIC** ***menus make it easy to use, but for real power you need a toolkit.***

If you use Power BASIC (which used to be Turbo BASIC before the author bought it back from Borland), there's a toolkit of tools and routines called the Power BASIC Support Set that includes a bar code printer, a file compression routine based on Huffman encoding, an EGA screen utility, a routine to download characters to a Hewlett-Packard Laserjet printer and more than there's room to mention.

If you prefer Microsoft's QuickBASIC, the Assembly Language Toolbox includes keyboard routines and support for high-resolution graphics. This one should be good, as it's written by Christy Gemmell, who also wrote the QuickBASIC Bible for Microsoft Press.

For Turbo C and Turbo C++ programmers, TCU is a library of routines for pop-up and pulldown menus, alert boxes to tell users what is going on and a form entry system. If your program needs to get a lot of information from the user, you can design a form for the answers which will be stored as a C Utilities File that can be loaded with your application.

The Technojocks Object Toolkit for Turbo Pascal 5.5 and 6.0 has been rewritten to give you object-oriented programming tools, including screen writing routines and mouse support. If you want windows and menus as well, there's a Windows and Menus Toolbox with 67 functions and procedures.

You may have seen a book on Fortran programming called *Numerical Recipes: The Art of Scientific Computing*, which includes a number of programs for performing scientific and engineering calculations. Numerical Recipes in Pascal gives you the source code for the same programs in Pascal.

If you're programming under DOS, you may find the Interrupt List useful – it's an on-line list of all the interrupts, from INT000 up to INTFFF with a listing of the BIOS data area as well.

Shareware programs like these will be available from most shareware libraries. If you don't have a favourite already, you could try Advantage (0242 224340) or The Public Domain and Shareware Library (0892 663298). ■

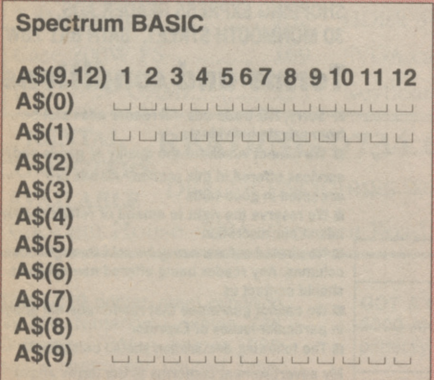
ANY QUESTIONS?

We're here to sort your programs out! If you've got a problem with your program or you've found a better way of doing something on any of the machines covered in *New Computer Express*, drop me a line: Mary Branscombe,
New Computer Express,
30 Monmouth Street, Bath,
Avon BA1 2BW

SPECTRUM BASIC AND GFA BASIC – SPOT THE DIFFERENCE

I programmed my Sinclair Spectrum for a good few years before moving on to an Atari ST (and the Spectrum is still lurking under my bed for when nostalgia strikes). I'd become quite used to Sinclair BASIC and I thought that GFA BASIC would be quite similar, but thare are some things that seem to be quite different. In particular, I'm having problems with strings stored in arrays.

Alan Smith, Basingstoke



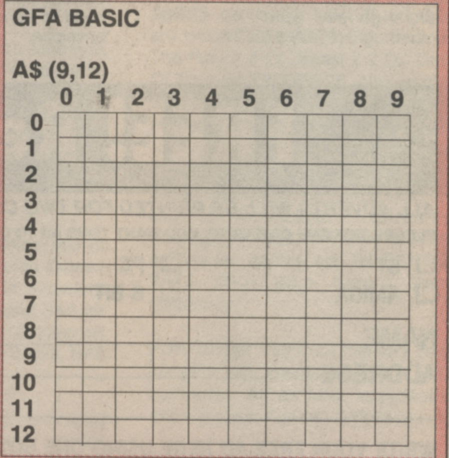
• *Creating an array in Spectrum BASIC you have to specify how many elements there are in the array and how large the elements are going to be.*

To set up an array in Spectrum BASIC, you use the `DIM` command to set the size of the array, using a string variable like `A$` to make it a string array. You have to specify how many elements there are in the array and how large the elements are going to be. So to create an array with ten elements that are each 12 characters long, the command would be: `DIM A$(9,12)`

That gives you ten subscripts of `A$`, from zero to nine, each twelve characters long. The same command in GFA BASIC would do something rather different, because with GFA BASIC it doesn't matter about the length of the strings in the array as long as they aren't longer than 32K. Specifying an array with two parameters actually gives you a two dimensional array, so `DIM A$(9,12)` gives you an array with 130 subscripts – that would contain `A$(0,0)`, `A$(0,1)`, `A$(0,2)` and so on all the way up to `A$(9,12)`.

If you're not sure how a two-dimensional array works, think of it like a set of pigeonholes with addresses specified like co-ordinates on a graph. To get the simple one-dimensional array of 10 elements in GFA BASIC, all you need is `DIM A$(9)`.

Something else that works differently is getting at the contents of the array. In Spectrum BASIC, `A$(4,6)` would give you the contents of the fourth element of the array, starting at the sixth character. In GFA, this would give you the contents of element `A$(4,6)` in the two-dimensional array. To get at part of an element, you can use `MID$(A$(4),6)` which gives you what you want. To get the whole string, it's just `A$(4)`.



• *In GFA BASIC the strings can be any length under 32K.*

GFA BASIC is also available for the Amiga and the PC (as well as a new version for creating Windows *3* applications in the pipeline) and all the versions are syntax compatible, so once you've got the hang of it you'll be able to move to a new machine and take your programs with you.

FREEPOST

A to Z Computers, Freepost,
TK1298, Twickenham, TW1 1BR

ALL prices include VAT & delivery

NO EXTRA!

NOW!

SUMMER SALE!

☎ 081-744 3087/2354

Telesales: 9.30-6.00 (Mon-Sat) Faxline: 081-891 6260 Access VISA

DISKS

HIGHEST QUALITY GUARANTEED

AT VERY VERY SPECIAL PRICES!

FANTASTIC OFFERS!	Branded: 3M, Maxell, Sony (Original boxed in 10's)					Bulk: 100% certified, prices include labels & envelopes				
QTY	**10**	**30**	**50**	**100**	**500**	**50**	**100**	**200**	**500**	**1000**
3.5" DSDD	£8.50	£24.00	£38.00	£69.00	£320.00	£19.95	£35.00	£67.00	£160.00	£306.00
3.5" DSHD	£14.95	£43.50	£66.00	£130.00	£625.00	£39.00	£55.00	£106.00	£255.00	£496.00
5.25" DSDD	£5.95	£17.50	£28.00	£54.00	£255.00	£14.50	£28.00	£52.00	£123.00	£225.00
5.25" DSHD	£9.95	£28.50	£45.50	£89.50	£425.00	£22.00	£35.00	£67.50	£165.00	£318.00

RIBBONS

Quality compatible fabric or carbon m/s
(original ribbon prices on request)

	1+	3+
Amstrad DMP 2000/3000	£3.50	£3.00
Amstrad DMP 4000	£5.45	£5.00
Amstrad LQ 3500	£3.20	£2.80
Amstrad LQ 5000	£5.95	£5.50
Brother HR10/15/20/25	£3.50	£3.00
Brother M1009/1109	£3.95	£3.50
Brother M15/1709	£4.95	£4.50
Canon PW1056/1080A	£3.95	£3.50
Centronics GLP	£3.95	£3.50
Citizen 120D/180D/E	£3.95	£3.50
Citizen Swift 24	£4.45	£3.95
Commodore MPS 801/2/3	£3.95	£3.50
Diablo Hy-Type II (M/S)	£3.95	£3.50
Epson EX800/1000	£4.95	£4.50
Epson FX/RX/MX 80 LX400	£3.95	£3.50
Epson LQ 10/1050	£4.95	£4.50

	1+	3+
Epson LQ 40/55/80/850	£4.45	£3.95
Epson LQ2500/2550	£4.95	£4.50
Epson LX80/86/90	£3.50	£3.00
Juki 6100 M/S	£3.50	£2.95
Juki 62/63/6500	£3.95	£3.50
Man-Tally MT80/81 Spirit	£4.50	£3.95
NEC P2200/P2+	£4.45	£3.95
NEC P6+/P7+	£5.45	£4.95
Panasonic KXP 1124/40	£4.45	£3.95
Panasonic KXP 1080/1190	£3.50	£3.00
Qume Mark 1/2/3/4	£4.45	£3.95
Seikosha GP80/100	£4.45	£3.95
Star LC/NX/XB24 10/15	£4.95	£4.50
Star LC10	£3.95	£3.50
Star ND/NB/NL 24/10/15	£4.45	£3.95
Taxan Kaga	£3.95	£3.50

ADD-ON'S & ACCESSORIES

MOUSE

Micro-soft comp. w/driver & test s/w	£26.95
Naksha mouse PC XT/AT with DPaint 2	£34.95
Naksha mouse PS/2 with DPaint 2	£34.95
Original Amstrad PC mouse	£24.95
Naksha upgrade (Amstrad/Amiga/ST) mouse	£22.95

JOYSTICKS

Quickshot QS113 analogue j/s + dual ctrl card	£24.95
Quickshot QS123 analogue deluxe + dual card	£26.95
QS113 analogue joystick PC XT/AT	£12.95
QS123 analogue deluxe joystick PC XT/AT	£14.95
QS dual joystick port control card	£14.95

CABLES

PC D25-Cen 36 printer (2m) ....£7.95...(3m) £10.95....(5m) £16.95
PC Cen36-Cen36 printer ....(1.2m) £7.95.................(2m) £9.95
Null modem cable D25-D25 (m/m, m/f, f/f) ....(2m) £12.95
Genders (D9-D9, D25-D25, D9-D25) m/m, m/f, f/f £5.95

DISK BOX 3.5" or 5.25"

40/50 caps ....£5.95..............80/100 caps...................£7.95

DUST COVERS (state your machine no.)

2pcs (computer with monitor, keyboard)	£8.95
1pc printer cover	£4.95

MOUSE MAT

Contriver anti-static foam mat	£3.95
Mousemate deluxe thick rubber mat	£6.95

DATASWITCH

2 way Centronics or serial	£17.95
4 way Centronics or serial	£25.95

SOFTWARE GAMES

688 Tank Sub	£22.95
A10 Tank Killer	£32.95
ATF 2	£17.95
Baal	£17.95
Balance of Power	£17.95
Bard's Tale 3 (T.O.F.)	£22.95
Battle-Storm	£17.95
Blade Warrior	£22.95
Champion of Krynn	£22.95
Curse of the Ra	£17.95
Daily Double Horse Racing	£17.95
Day of Thunder	£17.95
Dragon's Lair II	£32.95
Drakkhen	£22.95
Elite-Plus	£31.95
Exterminator	£17.95
Eye of the Beholder (A.D.D.)	£22.95
F15 Strike Eagle 2	£24.95
F19 Stealth Fighter	£32.95
F29 Retaliator	£26.95
Fighter Bomber	£26.95
Finest Hour (F.B.O. Britain)	£22.95
Fish - PC	£17.95
Flight Sim 4 (M-Soft)	£39.95
Football Manager 2 + Exp. Kit	£16.95
Full Metal Planet	£17.95
Guild of Thieves - PC	£17.95
Gunship	£22.95
Harpoon	£32.95
Hunt for Red October	£22.95
Indiana Jones atlc (GRA ADV)	£17.95
J. Nicklaus Unlim Golf	£32.95
Khalaan	£17.95
Kick Off 2	£17.95
King Quest 5	£32.95
Knights of Legend	£22.95
Leisure Suit Larry 1	£22.95
Leisure Suit Larry 2	£27.95
Leisure Suit Larry 3	£34.95
Lux Attack Chopper	£29.95
M1 Tank Platoon	£32.95
Mig 29 Fulcrum	£26.95
Monkey Island	£22.95
Night Shift	£17.95
Operation Harrier	£16.95
Operation Stealth	£22.95
Oriental Games	£17.95
Pawn - PC	£17.95
PGA Tour Golf	£17.95
Pirates	£17.95
Purple Saturn Day	£17.95
Red Lightning	£22.95
Scrabble Deluxe	£17.95
Silent Service 2	£26.95
Sim City	£19.95
Sim Earth	£32.95
Ski or Die	£17.95
Sporting Triangle	£15.95
Stormavik Soviet Att FGT	£22.95
Team Yankie	£26.95
Trivial Pursuits	£17.95
TV Sport Basketball	£32.95
Xenon 2	£17.95

FUN SCHOOL 3
Age under 5, 5-7, or over 7
£16.95 each

SPECIAL CLEARANCE!

Wordstar AMS-LAN	£25.00
Wordstar ver. 6.0	£275.00
Amstrad Paymaster	£25.00
Supercalc 3.21	£25.00
Supercalc 4 LAN	£50.00
Top Copy Plus	£79.95
Locoscript PC v.1.5	£105.95

A to Z Computers

132 Heath Road, Twickenham, Middx., TW1 4BN (opening hours: 10-5, Mon-Sat)

*** PRICES SUBJECT TO CHANGE WITHOUT NOTICE, B.F.P.O. & U.K. ORDERS ONLY**

OFFICIAL ORDERS FROM EDUCATION & GOVT. AUTHORITIES ARE WELCOME (£50 MIN.)

EXPRESS ON-LINE

A PD extravaganza this week, as we present the most comprehensive library listing in any UK magazine...

EXPRESS IS NOW ON-LINE!!!!

JOIN THE EXPRESS CONFERENCES ON ASPECTS (061-792 0260) AND CIX (081-399 5252)

8-BIT PUBLIC DOMAIN – Spectrum, BBC, Amstrad CPC and ZX81 public domain software. Send stamp and 10p for list. Public Domain, 1 Northolme Close, Grays, Essex, RM16 2NX.

17-BIT SOFTWARE – PO Box 97, Wakefield, West Yorks WF1 1XX. Tel: 0924 366982.

A

ACADEMY – PC shareware. For details send formatted disk and stamp to Academy, PO Box 65, Herne Bay, Kent CT6 8YZ.

ACORN 8-BIT PD SOFTWARE – Write to Alan Blundell, BBC PD, 18 Carlton Close, Blackrod, Bolton, BL6 5DL. Send SAE for £1.50 for sampler disk

AKORE SHAREWARE – 7 Fishergate Point, Lower Parliament Street, Nottingham NG1 1GD. Tel: 0800 252221

AMIDOS AMIGA PD SWAP CLUB – Send blank disk for details. No enlistment fee. Send SAE for prompt reply to 25 Salamanca Road, Cheltenham, Glos GL52 5LA.

AMIGA AND PC PD CLUB – Contact Prestel MBX 011115474 or send stamp to 48 King William Drive, Cheltenham, Glos, GL53 7RP

AMIGANUTS – 169 Dale Valley Road, Hollybrook, Southampton, SO1 6QX. Tel: 0703 785680.

AMIGA OWNERS – PD software to swap and sell. New library for Irish Amiga owners. Phone John at Limerick (061) 312257 or write to 21 Lower Careys Road, Limerick, Ireland.

AMIGA PD – The library with no name. Non commercial PD. Send SAE for complete listings. David Hopkins, 23 Penmead Road, Delabole, Cornwall PL33 9AT. Send Blank disk for free demos.

AMIGA PD – Only 75p per disk. Update catalogue sent every three months. Personal service guaranteed. Includes helpline for basic programmers. Access to software and exchange. Shieldsoft PD, M Daniels, 13 Churton Road, Rhyl, Clwyd, LL18 3NB.

AMIGA PD – over 600 disks. Only 75p each. For catalogue send SAE and 50p to Mark Knight, 20 Mayfield Crescent, Patcham, Brighton, Sussex, BN1 8HQ or tel 0273 557113. Special bulk prices on orders over 50 disks

AMIGA PD – Software for sale. If you live in South Wales then look no further. Disks only £1.50 inc P&P. Write now to SWAPD, 38 Syon Parlk Close, St Mellons, Cardiff. All the latest in demo, music, utils etc

AMIGA PD CLUB SWAP – Free PD for Amiga Plus 'swops', hundreds of titles and UTILS. Join free. Send blank disk or 50p for catalogue to: Frank Armstrong, Glenwood House, St Mary's Road, Eccles, M30 0BA.

AMIGA STORM PD CENTRE – We do everything including mag (soon). Send disks with demos on. If you are interested to 4 Lipgate Place, Portishead, Bristol BS20 9QW. Tel 0272 845571. Don't be afraid to call. !00 per cent reply rate. We do disks, second hand games and give general advice.

AMIGA PUBLIC DOMAIN – only 85p per disk. Send SAE for details to Paul Brown, 14 Elmfield Road, Rossington, Doncaster, DN11 0BP or call 0302 865148 after 7pm.

AMIGA PUBLIC DOMAIN – JJ Meachen, 59 Lee Road, Harwich, Essex, CO12 3SB.

AMIGA PUBLIC DOMAIN USER GROUP – Ashley Tarver, 5 Saunders House, Binswood Avenue, Lemmington Spa, Warks, CV32 5RZ

AMIGA SHAREWARE – Send SAE for lists to 4 Sedgewick Close, Atherton, M29 9EF

AMIGA SOFTWARE EXCHANGE SERVICE – small friendly swap service. Good selection. SAE for information to 13 Bournville Lane, Birmingham B30 2JY. Free PD swaps. Telephone 021 4597576.

AMOS/STOS PD LIBRARY – send SAE for a catalogue to 25 Park Road, Wigan, WN6 7AA. Telephone 0942 495261 before 6pm.

AMSTRAD PCW - PD software: Bob Ellis Tel 0432 761860 Queries: David Axford Tel 0428 56438

ANDRIKKOS PC LIBRARY – PC Megapack: 14Mb of highly compacted Shareware, £16 only. Cheque/PO (or SAE for list) to: Andy Kyriacou, 17 Parkhurst Road, London, N22 4JQ.

ANGLO AMERICAN SHAREWARE – £1 a disk. Over 2,000Mb of top Anglo-American titles. Send two first class stamps for menu driven catalogue disk to 37 Deven Place, Newport, Gwent. Tel 0633 259847.

APPLE MACINTOSH PD – Large catalogue of Macintosh PD, shareware, freeware. Send £1 for catalogue. All disks £2.50 each. Try us out, we have over 1 gigabyte of PD in our library plus the latest from the US. Mac PD, 22 Hill Crest, Potters Bar, Herts, ENG 2RT. Make cheques payable to G Smith.

ARCH PD – Over 200 disks of Archimedes PD. SEnd £1 or SAE and disk to Arch, PO 109, Ferry Road, Hullbridge, Essex, S55 6EL.

ARCH ANGEL PD – Over 230 Disks of Archimedes software. Send 75p for catalogue/demo disk to 9 Chancel Court, Pinhoe, Exeter, EX4 8QE.

ARCHIE PD – for 2.4Mb sampler pack send three E Format disks, SAE and £1 to Archie PD, Dept NCE, Highover, Udimore, Near RYE, East Sussex

ARCHIMEDES PD – Send £1 for demo disk. Contains catalogue and sample programs to Karl Hardy, 34 Ferndale Road, Liverpool, L15 3JZ.

ASTMATIC AARDVARK PD FACTORY – the best for PC, ST and Amiga. Send £1 for a demo disk toHighover, Udimore, Nr Rye, East Sussex, TN31 6BG.

ATARI 1 SHAREWARE – From performance PD, Helenville School Road, Coldineham, Berkshire, TD14 5NS. All shareware £2.99 each. Two hundred for sale.

ATARI CONNECTION PD – High quality disks only. Only 99p per disk. Wide selection – utils, demos, games etc. For disk catalogue send disk to ACPDL, 72 Lancelot Avenue, Strood, Kent

ATARI CONNECTION PD – High quality disks only. Only 99p per disk. Wide selection – utils, demos, games etc. For disk catalogue send disk to ACPDL, 72 Lancelot Avenue, Strood, Kent

ATARI ST/STE PD – Over 300 titles available from only 90p. Send 50p for disk based list to Riverview, 66 Abbey Road, Strood, Kent.

B

BALLY PD SERVICES – Amstrad CPC PD software bought and sold. Colour printing and blank disks available. 5 Howarth Avenue, Church Accrington, Lancs, BB5 4AF.

BEGINNERS' PD – ST PD starter disks. Two available. Over ten programs. £3 the lot. Write to James Thoroughgood, 114 Sandrigham Way, Frimley, Surrey, GU16 5YF. Also send suitable SAE.No cheques.

BIBLIOTECH PD – For the Amiga. PD to sell and swap. Send an SAE and 90p (payable to Nicholas A Kerr) for a catalogue on disk to 27 Chalk Hill, Bushey, Herts WD1 4BL.

BINARY ZONE PD – For the best and latest CBM64 PD software write to Binary Zone PD, 153 Farriers Corner, Westlands, Droitwich, Worcs WR9 9EX. Greetings to fellow Xentrix and Computer World members from Kenz.

BROADSWORD SOFTWARE – Atari ST PD. Send Blank disk or £1 for catalogue with SAE to Broadsword Software, Flat 4, Moreton Court, 212 Dover Road, Walmer, Deal, Kent CT14 7NB.

BUDGIE UK – 5 Minster Close, Rayleigh, Essex SS6 8SF

URMAN'S PD – Amiga PD for 40p. For a catalogue on disk, a few demos and a game send a stamp and disk to Burman's PD, 41 Pinner Park Gardens, Harrow, Middlesex, MA2 6LQ

BYTER PD – For list and latest titles of and Amiga PD write to Byter PD, PO Box 182, London, SE6 1BZ

C

C HACK'S PD LIBRARY – Captain Hack's PDL. ST Demos/Adult. Free disk catalogue; Blankie 60p plus SAE to 19 Latimer Drive, Laindon, Basildon, Essex. Tel: 0268 416 888.

C64 PUBLIC DOMAIN – Phoenix, 64 Plumberow, Basildon, Essex

CALEDONIA PDL – 250 Oldtown Road, Hilton, Inverness IV2 4PT. Tel: 0463 225736.

CIRCULAR PD LIBRARY – 14 Morrison Drive, Lennoxtown, Glasgow G65 7BA

CLIP ART (PD) – Send disk and SAE or £1 to Clip Art (PD), 8 College Road Blandford Camp, Blandford Forum, Dorset, DT11 8BE, for catalogue and examples.

CLUB AMIGA – 24 hour telephone helpline, newsletters, cheap PD contacts service etc: Send SAE for more info: Club-Amiga, 5 Bowes Lea, Shiney Row, Tyne and Wear.

CMS PD LIBRARY – Sam Coupé PD software for only £1.50 a disk. Send an SAE and a blank disk (or 70p) for a disk catalogue to CMS PDL, Dept NCE, 70 Donald Drive, Chadwell Heath Romford, Essex, RM6 5DU.

CRAZY JOE'S – 145 Effingham Street, Rotherham,S65 1BL. Tel: 0709 829286.

D

DATA PD LIBRARY for Amstrad CPC users. Send SAE, tape/disk and 50p to Kingsmill 202 Park Street Lane, Park St, St Albans, Herts AL2 2AQ

DANTILON DESIGN PD – Commodore 64 PD including demos, music and utilities. Send SAE for catalogue to RMS; 116 Taggart Avenue, Liverpool L16 9JA.

DIGITAL PD LIBRARY – for the Amiga. All disks priced at only £1. Write for a full catalogue to Digital Pd, 20 Vere Road, Hillsborough, Sheffield S6 1SB.

E

EINSTEIN PD – Amiga PD all disks only 80p for the latest list send SAE to The Forge, Pipers Lane, Godmanchseter, Cambs, PE18 8JN

ELECTRIX PDL – CBM and Amiga PD for £1 a disk plus 40 P&P. All the latest PD in stock. For a catalogue disk with demo and music write tio Electrix Amiga PD, 68 Donald Drive, Chadewell Heath, Romford, Essex, RM6 5DU

ELITE – Join the Elite. Become the Elite. PD Club with a difference. No fees at all. SAE brings details if you write to 8 Willow Way, Chemsey Wood, Birmingham B37.

ELMSOFT – PO Box 17, Loughton, Essex IG10 2EE.

EM PDL – 54 Watnall Road, Hucknall, Nottingham NG15 7LE. Tel: 0602 630071

F

FLOPPYSHOP – 45 Provost Graham Avenue, Hazelhead, Aberdeen AB1 8HB. Tel: 0224 312756.

FREAKS PUBLIC DOMAIN LIBRARY – Disks filled with programs of your choice from a huge range. Ribbons re-inked, recycled packaging, send stamp for catalogue to Freaks, 29 Leap Valley Crescent, Downend, Bristo; BS16 6TQ.

FUTURE SOFT PD – For the Amiga. Send disk or 99p for catalogue with a few utilities included. 122 Fairmont Road, Grimsby, ON32 8DX. Tel 0472 250524.

G

GAMES DOMAIN PD – Amiga Computer Games only. £1 each including postage and packing send stamped addressed envelope to 22 Broadwater Crescent, Stevenage, Herts, SG2 8EQ.

GARFIELD'S PD – Amiga PD software to swap or for sale. Send 99p for disk catalogue to 40 Penrhos Cres Rumney, Cardiff, South Wales

Let all the world know

Do you run a user group or bulletin board? Are you organising any event? Do you publish a fanzine? Let the world know about it through *Shopping Express.* Fill in this form and send it to us at: 30 Monmouth Street, Bath BA1 2BW.

(Tick as applicable) ☐ Group ☐ BBS ☐ Event ☐ Fanzine ☐ PD Library ☐ Virus Warnings/Bugs

Name of the above ....

Your name ....

Address: ....

....

- ● Write your ad in block capitals on the grid below using one word per box.
- ● Also, please let us know if any of the information on these pages is out of date.

SPOTLIGHT ON

PC-MBC FANZINE

This is a fanzine totally dedicated to the PC and how to use it. Written with a sense of humour and enthusiasm by editor Alex McLean, it tries to help its readers and is constantly on the look out for their feedback and contributions.

Only two issues have been produced so far, so it is not a widespread publication; however, there is no reason why it shouldn't become more well known. Alex certainly has big ambitions for it.

Topics covered in issue two include a look at a few of the PC magazines on the market, readers letters and several contributions by Graham Cluley, the author of a shareware adventure game which is available through the fanzine. The rest of the fanzine is made up of tips on how to use the PC, jokes, adverts and other bits and pieces.

PC-MBC costs 60p per issue, or 30p if you write and enclose a SAE. Getting it faxed to you would also cost 60p.

To get hold of a copy write to: PC-MBC Fanzine, 8 St John Street, Coleford, Glos, GL16 8AR.

If you're very lucky, you may even get a free humbug – we did!

GEMINI SHAREWARE – 10 Warwick Avenue, Slough, Berks SL2 1DX. Tel: 0753 28183.

GLOBAL PUBLIC DOMAIN – Amiga PD only 89p. For catalogue write to PO Box 2039, London E13 9PF. Every month free competition to win PD games and other accessories for your Amiga. We also swap PD.

GOODMAN PDL – 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, Staffs ST3 1SW. Tel: 0782 335650.

GUNNING PD PD – Atari ST PD library. Disks only £1 each and supplied on branded disks. Send three first class stamps to 47 Auchingane, The Tryst, Edinburgh, EH10 7HX for disk catalogue. Wow!

H

HIGH TECH SEQENCING PDL – 20 South Lane, Shelf, Halifax, West Yorks HX3 7PN. Tel: 0274 606205.

I

IAN BLAIR ENTERPRISES – 78 Camarthen Road, Swansea SA1 1HS. Tel: 0792 649060.

IBM SHAREWARE CLUB – Send blank disk for full list and details to 23 Houldsworth Rise, Arnold, Nottingham, NG5 8HZ.

IMAGE ART PD – Specialising in IMG format pics for DTP/other categories. No games!! Send £1.50 for catalogue and disk, rechargeable against purchase. 11 Ashleigh Point, Dacres Road, SE23 2XL. Tel: 081-291 4094.

IMG CLIP ART – GDOS fonts for sale or swap. For catalogue send blank disk plus stamped addressed envelope or £1 to E Renner, 62 Broxholme Lane, Doncaster.

J

JASSOFT PD – IBM PC PC software from 75p per disk. Send an SAE for free catalogue to: Jassoft PD, 25 Connaught Square, London W2 2HL.

JENNIX PD – Atari ST/STE Public Domain specialists. Over 400 disks from only 90p each. Send 50p for a disk list to Jennix, 66 Abbey Road, Strood, Kent.

JOEL'S PD GAMES – for Amiga users. PD disks only 90p each. For a catalogue send an SAE to Joel's PD Games, 389 Scalby Road, Newby, Scarborough, North Yorkshire, YO12 6TG. Please add a blank disk.

L

LAPD – Worldwide reputation for quality PD for the ST. Thousands of programs available. Disk catalogue only £1.00. Credit cards accepted. Telephone 0773 605010 or

0773 761944.

LAZER PD – 100 Amiga PD disks, 95p each. For catalogue/disk sent 95p (cheques/PO's payable to J Deavall) to: 57 Adamthwaite Drive, Blythe Bridge ST11 9HL.

LIGHTENING SOFTWARE PD CLUB – We can provide PD titles free of charge! Amiga only. For details send an SAE to Brian Roscoe, 14 Kingsmead Road, Moreton, Wirral L46 1QU.

M

MACH MAC PD – The best there is. Explosively good public domain for the macintosh. £1 for demo disk and catalogue of over 900 disks. Write to MMPD, Highover, Udimore, Nr Rye, East Sussex.

MERTON PD – Cheap Atari ST PD. Send £1 or blank disk for catalogue with SAE (cheques payable to T Huq) to: 10 Grasmere Avenue, London SW19 3DX.

MG SOFTWARE – £2 per disk of Atari ST Public Domain. Send me 95p for my catalogue of great stuff. Mark, MG Software, Connerways, Beckingham Street, Tolleshut Masor, Essex M9 8LL.

MPH – 10 Chandlers Court, Eaton, Norwich NR4 6EX

MT SOFTWARE – Greensward House, The Broadway, Totland, Isle of Wight PO39 0XB. Tel: 0983 756056.

MY PD – Over 1200 disks at 99p each. For Amiga catalogue disk send 80p PO or cheque to Jagla, 92 Firtrees, Thurgoland, Sheffield S30 7BG. Tel 0742 884183.

N

NBS – Dept F, 132 Gunville Road, Newport, Isle of Wight PO30 5LH. Tel: 0983 821983.

NIGHSHIFT PD LIBRARY – Clip Art, demos, exclusive samples, utilities, Atari ST. Send SAE and 50p for catalogue to Nightshift, 8 Bertelin Road, Beaconside, Stafford ST16 3JJ.

NO FUSS SHAREWARE – For PC. Prices from £1. Contact: NFS, 48 King William Drive, Cheltenham, Glos. GL53 7RP. Prestel 01-111 5474.

P

PAD PD AND SHAREWARE LIBRARY – For the Amiga user. Send SAE for details to: PAD Public Domain Library, 41a Saint Augustine Street, Norwich, Norfolk, NR3 3HF.

PAGE 6 PUBLISHING – PO Box 54, Stafford, ST16 1DR. Tel: 0785 213928.

PARADISE COMPUTERS – 9 Westfield Cres, Brighton BN1 8JB.

PAWS PD – Lichfields only PD library. All disks £1 each. Swaps welcome. Send a stamped addressed envelope for list to: Anthony Cooper, 14 Purcell Ave, Lichfield, Staffs WS13 7PJ.

PERSPECTIVE PD – Free Amiga PD! Don't believe us? Try! Send 25p for a printed catalogue or 60p for disk catalogue. 6 Clover Close, Cumnor Hill, Oxford OX2 9JH.

PC SHAREWARE – At sensible prices. 50p to £1.50 per disk. Send disk with SAE to Rosie, 63 Springboig Road, Glasgow G32 0DB

PC-PD SHAREWARE – All disks £1.50. Postage £1 per order to PC-PD, GMC Computers, The Green, Cavendish, Suffolk, CO10. Tel 0787 280 526. Credit cards accepted.

PC SOFTWARE – PC Serve, 1147 Greenford Rd, Greenford, Middx UB6 0DP. Tel 081-864 2611, BBS 081-864 2633

PCW PD CLUB – It's new, it's fresh. Swap PD for PD, up to three disks full at a time. Bi-monthly newsletter soon. All PCW owners welcome. Write to 3 Moorend Ave, Chorley Wood, Birmingham, B37 5SD.

PD ESSENTIALS – 22 Fern Avenue, Mitcham, Surrey CR4 1LS.

PDQ – PO Box 38, Eastleigh, Hants SO5 5WR.

PD ST – PD Disks from £1. Disk based catalogue 50p. Quote NCE for special discounts. Send to PDST, 95 Elton Road, Sandbach, Cheshire CW11 9NF.

PD-X AMIGA PD – FROM 50p. Are you tired of over priced PD? Send an SAE to PD-X, 48 Sedgebrook Grove, Hull, HU7 5EB and we will send you a catalogue. Send SAE and a disk for a free demo. Good quality Empire/UMS Data disks £3

PERFORMANCE PD – PD for the ST. 30 Prospect Road, Oulton Broad, Lowestoft, Suffolk, NR32 3PT. Tel: 0502 513923. Disk list £1. Cheques/POs payable to Performance PD.

PJ DEMOS – Amiga PD. For just 30p send a disk for our catalogue. Only SAE will be returned. Send to PJ's Demos, 63 Park Lane East, Hull HU4 6TW.

POWER PD – 90p per disk. Wide range. Send 90p for current Amiga catalogue on 3.5 inch disk to Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk, PE32 2QQ.

POTENTIAL PD – for the Atari ST. Public domain to sell and swap. SAE to Helenville, School Road, Coldingham, Berwickshire TD14 5NS.

PRESTIGE AMIGA GAMES (UK) – Amiga Games for sale or exchange. Large PD Library. Send SAE for full list to K Harvey, 67 Waverly Road, South Benfleet, Essex SS7 4AX.

PRIVATE COLLECTOR – Atari STE Public Domain. Over 300 titles. Send blank disk (or 50p) and SAE for list to: N Rodel, 72 Lancelot Avenue, Stroud, Kent.

PRIVATE SHAREWARE – Send blank disk and stamp for catalogue. Very Cheap. Write to Frank, Combe Rise, Luppitt, Devon, EX14 0RT. IBM only. Telephone 0404 891806.

PROPHECY PDL – Atari ST Public Domain. Send SAE and disk or a cheque for £4.50 to Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey, CRS 1EF. We have very competitive prices.

PUBLIC DOMINATOR PD ATARI – PO Box 801, Bishops Stortford, Herts CM23 3TZ. Tel: 0279 757692.

R

R&G PD – For cheap Amiga PD send SAE for list to R&G PD, 23 Melmount Gardens, Strabane, County Tyrone, Northern Ireland or send a disk for list and game. Also willing to swap.

RICHARDS PD LIBRARY – Support for Amiga PD. A massive range of demos, utilities, music, AMOS, Slideshows etc. Most disks £1.50. Some £2.50. All disks dispatched as soon as we receive the order.. 74 Cross Deep, Twickenham, Middx, TW1 4RB.

S

S&T PD for the ST. Large selection of PD from £1. Send £1 or a disk and 50p for a list. All prices include postage and packaging. Send cheque or PO to Simon Eve, S&T PD, 6 Crediton Road, London, NW10 3DU

SAINT JOHN'S SCHOOL LIBRARY PDL – Atari/ST PD software for sale or swap. Write to St John"s School Library PDL, c/o Mark Ash, 54 Beaconsfield Road, Sittingbourne, Kent. ME10 3BB or telephone 0795 425653 after 4pm.

SCOTBASE PDL ASSOCIATION – Affordable Shareware for PC users. Blank disk and SAE for catalogue and details to: Rosie, 63 Springboig Road, Glasgow G32 0DB.

SCOTSOFT INTERNATIONAL – For the ST. Send three first class stamps for disk catalogue to 47 Auchingane, The Tryst, Edinburgh, EH10 7HX. Disks supplied are branded.

SENLAC – 14 Oaklea Close, Old Roar Road, St Leonards on Sea, East Sussex TN37 7HB. Tel: 0424 753070.

SHAREWARE KING – 3,000 items of Shareware for PC, plus support, membership, plus discounts. SAE and blank disk for details to C Smith, 10 Penwood Close, Westbury, Wilts, BA13 3LW. Tel 0373 865263.

SHIELDSOFT PD – For the Amiga. Only 75p per disk. SAE for details to 13 Churton Road, Rhyl, Clwyd LL18 3NB. Three month update. Personal service. Helpline for BASIC programmers.

SKYFALL PD – For the Acorn Archimedes. Thw world's largest PDL for the Archimedes. Spring 1991 catalogue out now. Send an A5 SAE or £1 for our demo disk to Skyfall, PO Box 2220, Birmingham B43 5RZ.

SOFTVILLE PD – Unit 5, Stratfield Park, Elettra Avenue, Waterlooville, Hants PO7 7XN. Tel: 0705 266509.

SOLENT SOFTWARE – 53 Rufus Gardens, Totton, Hants SO4 3TA. Tel: 0703 868882.

THE SOURCE PD – For the Atari ST. Compacted demos disks. £1.50 each. Write to: The Source PD, 7 Shearwater Lane, Norton, Stockton, Cleveland TS20 1SH.

SPHINX SOFTWARE – Erw Fynydd, Carmel, LLanelli SA14 7SG.

ST CLUB – 9 Sutton Place, 49 Stoney Street, Nottingham NG1 1LX. Tel: 0602 410241.

ST PD COMPILATION DISKS – Send SAE for details or £2.50 per disk stating disk (numbers 1 to 5). Write to: A burns, 61 Coniston Road, Gunthorpe, Peterborough PE4 6UL.

THE ST ADVENTURER'S PD LIBRARY – PD for all ST users. Adventure, more adventure and even more adventure. Catalogue disk just 50p. Write to John R Barnsley, 32 Merrivale Road, Stafford, ST17 9EB.

STAR PD – Software for the Atari ST/STE. Hundreds of disks available. Send blank disk and SAE for free PD and disk based catalogue to Star PD, 1 Solva Road, Clase, Swansea, SA6 7NX.

STATE 808 PDL – For ST art, demos (good selection) and games!!! Very cheap!!! Just send an SAE and disk to: State 808, 3A Old Lanark Road, Charluke, ML8 4HW.

STEVE'S AMIGA PD – Catalogue disk. See demos, play games, usable virus killer and a PD catalogue. Send £1 plus 9x4 SAE to Mr S Fitch, 1 The Croft, Welwyn Garden City, Hertfordshire, AL7 4JY.

STOS/AMOS PDL – Sandra Sharkey, 25 Park Road, Wigan, Lancs WN6 7AA. Tel: 0942 495261.

STUPID FLOWER PD – new library for ST users. Send an SAE for a free catalogue to SFPD, 3 Read Mead, Glastonbury, Somerset BA6 8ON or call 0458 35027 and ask for Matt.

THE SURREY PD CLUB – Atari ST PD for only £1 per disk. Send an SAE to the Surrey PD Club, 25 Windmill Way, Reigate, Surrey RH2 0JB.

SWPD – PD software from 70p. Send SAE for free catalogue. Atari ST only. SWPD, 50 Coombe Lane, Torquay, Devon TQ2 8EA.

SYSTEM PUBLIC DOMAIN – Archimedes. For 4 megs of the best graphics, RISCOS APS, utils, !Drawfiles, sprites, games, music and samples send five formatted disks, an SAE and £1 to Highover, Udimore, Rye, East Sussex TN31 6BG. Cheques postal orders to Mr EJ Thomas.

T

TOTAL PD – for the ST. Send SAE for free catalogue to Total PD. 27 Stanmer Villas, Brighton, East Sussex, BN1 7HQ. We buy, sell and swap PD.

TOWER TOP PDL – The Coragen Corporation, 4 Cardigan Close, Bletchley, Milton Keynes MK3 7EJ.

TRIDENT PD – Exchange your unwanted PD disks with us free. Send SAE for details and list to Trident, 19 Dunley Gardens, Newtownabbey, Co Antri BT37 9HZ.

TRIPLE X – We are the only PD Library dedicated to ST Adult Software! £2 per disk. Write for your free catalogue, also other software available! Triple X, Babak Ghaxi, 3 Lansdowne, Carlton Drive, Putney, London SW15 2BY.

TRUST PD – 18 The Park, Southawram, Halifax, HX3 9QY. Tel: 0895 53521.

TYPECAST PDL – Catalogue issue two out now. PD, DTP, WP, art and clip art for Atari ST/STE. No games. Send disk and SAE for catalogue to 31 Hartfield Crescent, West Wickham, Kent BR4 9DW.

V

VENUS SHAREWARE – IBM Shareware: Amateur radio, technical, engineering, education, Windows utilities and more. Telephone 0252 837860 for your free catalogue.

W

WARPDRIVE – The best in Amiga PD. Send for free catalogue. Disks 89p, p&p 50p per order. 110 Burton Avenue, Balby, Doncaster DN4 8BB.

WEST COUNTRY PDL – ST Public Domain and shareware. Large library. Send stamped addressed envelope and blank disk or £1 for catalogue to PO Box 2, Lynton, North Devon, EX35 6BS.

WEST LONDON PDL – 8 Berkeley Road, Hillingdon, Middlesex UB10 9DU. Tel: 0895 53521.

WHITE HEAD PDL – Atari ST PD from £1.40 per disk. Send two second class stamps for latest list to Hakan Akbas, White Head PDL, 15 Cavendish Mansions, Clapton Square, London E5.

WIZARD PD – 178 Waverley Road, Reading, Berks RG3 2PZ.

WOOLEYSOFT – Humblesknowe Cottage, Ramolye, Dunblane, Perthshire, Scotland FK15 0BA.

X

XT SHAREWARE for sale or swap from £1 for 5.25 inch and £1.20 for 3.5 inch disks. SAE for list to Kowalik, 24 West Chilton, Ferryhill, Co Durham DL17 0HH.

EXPRESS DISCLAIMER:

Inclusion in this listing does not mean that *Express* endorses or recomends any individual library.

THE PD COLUMN

What's new in the Public Domain? Frank O'Connor has designs on a 3D demo, spills blood and guts in the streets and writes to his Auntie on a WP

Any Amiga owners out there interested in design, might be want to procure the demo version of *3D Master*. This 3D design program is available commercially at the very reasonable price of £35. PD pundits, however, can get a demonstration of this wonderful utility, by contacting Senlac software in St. Leonards, Essex.

The program is a powerful three dimensional sculpt package. The demo, on the other hand, gives examples and allows a bit of tinkering. Still, you can always check it out and see if you like it. 3D is in vogue at the moment, what with all the fuss about virtual reality and all. This program is for those of a more artistic bent however and its aesthetic values far outweigh its practical abilities.

The demo is nice to look at and very entertaining, but Senlac has a wide range of other software, so it might be worthwhile browsing.

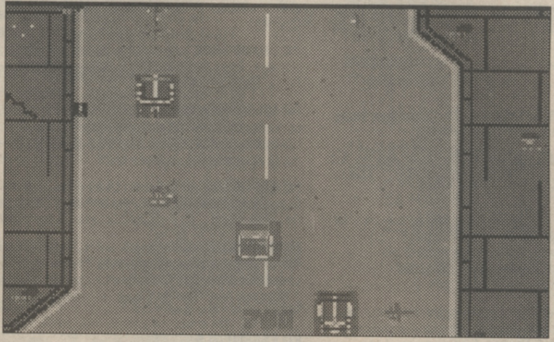
• The 3D Master demo will appeal those with an artistic bent, although it is more aesthetically pleasing than practical .

PEDESTRIAN MAYHEM AND MURDER

Amiga PD games are thick on the ground. Most tend to be conversions of ancient arcade games and so it's nice to see something vaguely original every now and then. Amiganuts are the chaps responsible for the rather unsavoury *Scumhaters*. The game is a vertically scrolling shoot-'em-up, featuring some very dodgy moral values.

The game has you driving a police car through city streets. Hampering your progress are an assortment of bad guys, as well as some rather unfortunate and entirely innocent bystanders. The bad guys come in two main flavours: missile-firing vehicles and bazooka-carrying pedestrians. The pedestrians can be killed simply by driving over them. They emit blood-curdling screams when you do this, so it's a good idea to throw ethics to the wind and kill everything.

You are armed with an unlimited supply of rather pokey missiles, very useful for taking out other vehicles. The graphics, while being less than spectacular, are colourful and often ridiculously gory. The sound is especially nice, with lots of sampled noise and a different effect for every action. It was programmed using the shoot-'em-up construction kit and is a good example of what can be achieved using this utility.



• Unethically sound but full of wonderful noises Scumhaters is a gory arcade-like game which is best played with a shoot-to-kill everything policy.

ANYONE FOR TENNIS?

ST owners are in for a bit of a treat this week. Wimbledon has come and gone, but if you're still in the mood for a spot of tennis, then Scotsoft in Edinburgh has just the thing for you. *Tennis* on the ST is absolutely spanky! The thought of all that sunshine, fresh strawberries and ball-bashing action is enough to set you're little heart aglow.

AMIGANUTS UNITED

169 DALE VALLEY ROAD, HOLLYBROOK, SOUTHAMPTON, SO1 6QX.

Tel enquiries: 0703 785680, Mail Order only.

DISTRIBUTORS OF THE FANTASTIC AMIGA CODERS CLUB DISKS

EUROPEAN DISTRIBUTOR FOR THE WORLD FAMOUS T. BAG DISKS FROM MERLIN SOFTWARE

Here is a selection from our licenced programs, they are only available from us:

Bug-Bash: Kill the bugs, clean up the trash in the garden. A great kids game. £3.00
Nucleus: A budget shoot-em-up that will keep you occupied for hours £3.00
1036: Amibase Professional II (v.1.2). The new additions to this database make it a must have. It includes a nice picture addition facility. (1Mb)..£3.50
876: Quizmaster, think you know it all? Well now you can prove it. With save and re-load facility. For 1 to 4 players. Great fun, excellent value..£3.00
877: 1 Across 2 Down. A fully fledged crossword program. (Data disk No: 1 is supplied free!). For only £5.00. Data disks 2, 3 and 4 are now ready at £2.00 each.
1038: Super Amidash. Do you remember that good old Commodore 64 game Boulderdash? Well here is your chance to have that fun again 1Mb £3.00
1068: MOD Processor v1.92. make picture and/or music progs, adjust pic height/width. This version will load the new 8 channel octamed music and is excellent!.........................£3.50
1075: Intuimenu. The easiest way to run all your programs. By Nicholas Lewis £3.00
1077: Clear. A very good, (but mind-bogglingly hard), game from PH Software................£3.00
1083: Copper Writer/Screen Designer. By Frank Tout. (For programmers only)...............£3.00
1088: Weird in Edgways. This is a good puzzle game. By Chris Banks 1Mb £3.00
1100: School Timetable Creator. (Print your timetable). By Keith Grant. 1Mb £3.00
1102: The Sprite Designer. A good way to draw/save sprites. By Frank Tout £3.00
1106: The Block Designer. Use with disk 1083 and design 16 x 16 pixel squares...........£3.00

NO MORE WAITING! SUBSCRIBE TO THE AMIGA CODERS CLUB NOW!

If you would like to get hold of the Amiga Coders Club disks as soon as they are published, why not send £33.00 and ask to go on the A.C.C. mailing list now? We will send you each issue as soon as it is ready.
(Applies to issue 14 onwards.)
(If ordering from outside EEC countries, add an extra £6.00 for years postage)

PLEASE NOTE THAT ISSUES RELEASED PRIOR TO ACC 14 MUST BE PURCHASED SEPARATELY

LOOK

THE EXCELLENT (1Mb) EIGHT OR FOUR CHANNEL MIDI COMPATIBLE OctaMED v1

AMIGANUTS hold the worldwide copyright to this program and it will not be available through any other stockist. You can purchase this great program for only £10.00 within Europe. (£15.00 for non-European). The price includes return post and packing. Payment in pounds sterling only, if ordering from overseas, send a bankers order/eurocheque etc. (Credit card orders will not be accepted). No need to order the PD Med anymore, the latest version is within this package!

Into coding? - Want to learn? The Amiga Coders Club is for you! ACC 1-4 is the first four compressed issues of an excellent series for coders, even if you are new to the Amiga. If you want to learn Assembly, using DevPac, (or our own new ACC special assembler disk), this is the club for you! ACC 1-4 (compressed) £1.50. The Amiga Coders Club disks are packed with source, hints, tips, advice from many of the well known coders that are on the Amiga scene today. Issue numbers 5-14 are now available. Please note, (excluding the compressed introductory disk (ACC 1-4), and no. 12, the price for each issue of the ACC disks is only £3.00. ACC 12 is our birthday issue, it is a 2 disk set, and therefore the price is £6.00. Amiga Coders Club Special! Here is a low priced assembler package for all you coders out there in Amigaland. (See the review in this months Amiga Format) £5.00.

The game uses the perspective favoured by most tennis sims, that is a sort of 3D top down view. The standard tennis moves are available starting obviously with the serve as well as backswing and smash.

The control method can be varied between joystick and mouse and a brilliant two player option is available. To control your player, starting with serve, you hit the button to launch the ball skyward. As it falls, you fire again to choose the perfect moment to smash the ball down the court.

HERE ARE THOSE VITAL CONTACT ADDRESSES:

Scotsoft International,
47 Auchingane,
The Tryst,
Edinburgh EH10 7HX

Senlac Software,
Unit 6,
West Hill Arcade,
St Leonards on Sea,
East Essex
Tel. 0424 445438

Amiganuts,
169 Dale Valley Road,
Holly Brook,
Southampton SO1 6QX

What follows is a mad scramble around the court in an attempt to return the service. The control method is perhaps the best thing about this game, in that it's much more forgiving than most tennis games. No longer do you require pixel-perfect reactions to hit a simple shot. Just get in front of the ball and whack it.

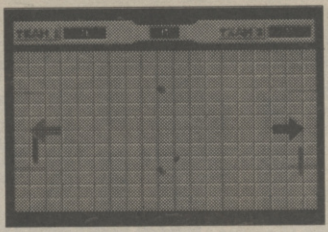
The graphics don't exactly reach out and grab you by the throat, but they do present a fairly accurate rendition of a tennis court. The sound, as you would expect from an ST is dead simple, but it does the job well enough.

It's spooky that a Public Domain title should emerge as being just about the best tennis simulation on the ST. Simulation is perhaps a loose description as *Tennis* feels very much like an arcade game, but it doesn't fare too badly for all that. A must for your collection and one of the neatest programs you'll ever see.

STRANGE PONGS FROM YOUR AMIGA

Another nice little game from Amiganuts comes on a packed disk full of animation and games. The game in question is *Powerpong*. Uh, oh, don't tell us it's *Pong* on the Amiga...well, yes and no. It is *Pong*, but with knobs on. *Pong* was the first real video arcade game and it was a very simple concept indeed.

Simply bat a ball from one side of the screen to the other. The object being to knock the ball past your opponent on the other side. This version features roughly the same gameplay, but with tarted up graphics and some neat sampled sound.



• Pong *with knobs on - tarted up graphics and good sounds makes the* Powerpong *up-date an engrossing game.*

The arena is made up of bas-relief tiles and depending on which level you select, there are pinball-like obstacles in your way. If the ball should strike one of these obstacles, the darn thing shoots off at a very high speed and at an unpredictable angle.

If it all gets too easy, you can set the speed of the ball as well as the ability of your computer generated opponent. The game concept is so simple and addictive, that you soon become engrossed in an attempt to beat the computer (especially on hard level). The graphics are workmanlike rather than wondrous, but the sound is not far short of spectacular. It sounds dull admittedly, but you'll soon be proved wrong.

WORD UP!

Word processing is about the only serious application that everybody can find some use for. Whether it be a letter to your Granny, a thankyou note for a present or a fully-fledged novel, everyone can make use of a word processor.

Lucky then, that Scotsoft has two of the better commercial WPs on its list of new PD utilities. The first and most recent is *ST Writer*. This rather comprehensive utility was on sale many moons ago and at full price. It's age and redundancy in the light of newer competition, have meant that it's been released on the PD scene. Lucky us!

ST Writer is very good, reasonably fast and contains almost all of the accepted and required word processing features. The user interface is friendly and simple and requires only a little in the way of experimentation to master the basics. For free, you can't complain, but the fussier bargain hunters might do better to check out *1st Word*.

1st Word is the older of the two, but arguably the better. The differences are admittedly slight, but *1st Word* is just that bit smoother and friendlier. It all comes down to which one you get on with best. *1st Word* has a useful and comprehensive spellchecker, while *ST Writer* has a nicer print-handling ability.

You pays your money and you takes your choice, or in this case, you pay very little money and get both. ■

AMIGANUTS UNITED

169 DALE VALLEY ROAD, HOLLYBROOK, SOUTHAMPTON, SO1 6QX.
Tel enquiries: 0703 785680, Mail Order only

Listed below are some newer additions to our public domain & shareware selection

1103: A very special 4 disk animation from the famous Tobias Richter. 5Mb......£6.00
1104: Scum Haters. A good fun game by Brazzle Atkins. (See Franks review above) .£2.00
1105: Reincarnation of Sgt. Pepper. A two disk music/pic extravaganza 1Mb....£3.00
1111: PCQ Pascal Front End, (Assembler). This is a must for PCQ fans.............£2.00
1112: NORTH C Front End Assembler by Steve Hawtin. (Additions by Mark Meany).........£2.00
1119: AIR WAR. A shoot em up with a difference. Are you a good pilot? £2.00
1116: BATTLE PONG. A new variety of Pong. (See Frank O'Connors review above).........£2.00

Many new programs have arrived, but there is no space to list them all!

AMIGANUTS ARE PROUD TO ANNOUNCE THAT WE ARE NOW THE EUROPEAN DISTRIBUTORS FOR MERLIN SOFTWARE PROGRAMS, WHICH INCLUDE THE WORLD FAMOUS T.BAG DISKS.

T.BAG DISK NUMBERS 1 TO 49 ARE £2.00 EACH

£3.00 EACH FROM ISSUE 50 ONWARD.

SUBSCRIBE TO THE WORLD FAMOUS TAMPA BAY AMIGA GROUP DISK OF THE MONTH SERIES.

If you would like to take out a years subscription for the T. Bag disks, (applies to issue 50 onward), simply send £33.00 and we will send you each issue well in advance of them becoming available from any other supplier. (Note that issues 50 to 55 are ready now and will be sent upon joining). Issues released prior to T. Bag 50 must be purchased separately @ £2.00 each. If ordering from a non EEC country, add extra £6.00 to cover the years postage.

MASTER VIRUS KILLER V2.2 IS HERE!

It now recognizes another 27 new virulent virii, including the memory infecting SHV.

Also contains new protect progs for hard drive users

This version now also works on the A3000 (V2 chip)

The price of this fantastic prog is only £5.00

(MKV V2.2 is not public domain)

Free disks + free progs + free membership - over a thousand detailed progs plus some games to play, on the main catalogue disk for only £1.00. Main catalogue disk sent "FREE" with orders above £15.00 - please remember to ask for your free copy if you send an order above £15.00 as we tend to forget.

Prices quoted include return post and packing. Make cheques etc payable to: **Amiganuts United** (no credit card orders).

Also available is the 1991 update to our main catalogue for only £1.00. (The update contains only the 1991 additions to the library).

Please note that we are closed from 18th to 26th August and no orders will be dealt with during these dates.

Many customers keep asking us why we will not accept credit cards, the simple answer is that we do not like encouraging young people to get into debt!!
AMIGANUTS UNITED...five years old and still going strong...ask yourself why!

The EVENT HORIZON

Who's doing what, with what, with whom, how, why and where...

THE PLACES TO BE . . .

Making the Difference Now – Tue 31 Dec
At the Science Museum, London. Info: 071-938 8080.

GeoCon '91 Sun 11 – Tue 13 August
Info: 010 32 03 234 3180.

Human Gene Mapping International Workshop Mon 19 – Thu 22 August
Conference for scientists around the globe involved in the quest to map the human genome. At the New Connaught Rooms, Great Queen Street, London WC2. Info: 071-269 3616.

Computer Animation Competition and Exhibition Wed 21 – Wed 28 August
At the Amiga Centre Scotland. Info: 031 557 4242.

PLASA Light & Sound Show Sun 8 – Wed 11 Sept
The international entertainment and leisure technology show at Olympia 2, London. Tickets are £4 in advance or £6.75 on the door. Info: 071-370 8174.

Leeds Computer Extravaganza Fri 13 – Sun 15 Sept
At the New Exhibition Centre, Leeds University. Info: 0532 677 657.

Business Computing '91 Tue 17 – Fri 20 Sept
At the Earls Court Exhibition Centre, London. Info: 071-486 1951.

International Police Exhibition and Conference '91 Tue 17 – Thu 19 Sept
Sponsored by IBM. Five of the 10 sessions will be devoted to technical subjects, with entry costing £20 plus VAT for each; the rest will deal with areas in international policing at £25 plus VAT.

The conference will be he London's Barbican Exhibition Centre. It will be officially opened by the Home Secretary. Info: 081-995 7700.

The Works of Charles Babbage Thu 19 Sept
Lecture at the King Edward VI College, Totnes at 14.15. Info: 0803 863821.

Effective Management of Information Technology Security Conference Mon 7 – Tue 8 Oct
In London. Info: 071-587 1117.

Computers Count Tue 8 – Thu 10 Oct
An exhibition at Totnes Civic Hall. Info: 0803 863821.

Business Communications Awards Thu 10 October
At the Savoy Hotel. Info: 0800 800 847.

Charles Babbage's Impact on Modern Computing Wed 23 Oct
At the Science Museum, London at 17.30. Info: 071-938 8196.

Image Processing '91 Tue 29 – Thu 31 Oct
At Birmingham NEC. Info: 081-868 4466.

System Builder Wed 30 – Thu 31 Oct
At Sandown Exhibition Centre, Esher, Surrey. Info: 0822 614671.

Computer Graphics '91 Tue 5 – Thu 7 Nov
At the Alexandra Place, London. Info: 081-868 9933.

Desktop Cad '91 Tue 5 – Thu 7 Nov
As above. ■

The Insider...

A fly on the wall's view of the strange doings and even stranger rumours going down within the computer industry

The Insider was wined and dined copiously this week by unnamed individuals desperate not to get mentioned in this column. Tough. The 16-Bit Computer Show was also a hotbed of intrigue. Read on for more. By the way, if you have any juicy gossip, send it to: The Event Horizon, *New Computer Express*, 30 Monmouth St, Bath BA1 2BW.

Anonymity is assured, as is a fiver for anything used.

USE ME, BEAT ME, PAY ME!

What's this we hear about certain letters on CIX from certain unhappy programmers who still have not been paid by certain software houses for certain Vietnam-based games.

No names as yet because we have had no confirmation or denial from the probably really, really innocent software house in question, but you never know for sure do you?

QUIT THINKING

So farewell then Peter Staddon of Atari. Atari's marketing manager has decided to up sticks and move to pastures new, he's moved down the road from Atariville to take up a job with computer supplies firm RMT. According to Bob Gleadow, Atari's head man in the UK, the decision to leave was a "... surprise and a disappointment". The Insider wishes Peter well in his new role and wonders who will be next to take up the hot seat.

CLOSE TO YOUR CHEST

While wandering through the *Express* office this week in order to pick up the odd cheque and guffaw at the pathetic doings of the droids, the Insider was stunned to hear an *Express* hack regaling the other greasy journos with the following quotation from a software house: HACK: "He said that he couldn't tell us anything because, and I quote, 'We're being clammy old bastards again aren't we?!'" The Insider was shocked by the fact that an *Express* newshound had the audacity to bother a softwarehouse representative during lunch!

HOW NOT TO WIN FRIENDS AND INFLUENCE PEOPLE

During our mega-public domain round-up this week several, 'background' sources were contacted in order to gather some background on the situation. A number of comments which the journalist responsible for the story could not use because of lack of space should be aired. On porn, one nasty little man said: "Face it, most people are perverts, they just don't want to admit to it. And stuff like *Playboy* doesn't come up with the goods. Some people want to see donkeys, some women like them." Really?

Golden Moments

A look back into the history of computing with *Express*. If it happened we reported it first.

ONE YEAR AGO

- Timothy Leary, famous for his acid antics, hosted the first cyberspace show. People were given the opportunity to don eyephones and data suits and blow their minds with trips through, like er, virtual reality, man.

- A PC utility was released which enabled users to give files longer, more meaningful names, instead of the usual rubbish that MS-DOS supports. The memorable name of this utility? XNP.

- Worries were expressed by the Data Protection Registrar concerning the possibility of merging databases to form an unofficial nationwide pool of information on UK citizens, identifiable by their national insurance numbers. Quite apart from fears that, with this information coming from so many sources, it would be very difficult to check its accuracy, it seems that anyone with the time and money is able to compile a Big Brother-style system.

TWO YEARS AGO

- Stories of hard disk failure finally became too much for Amstrad. In an effort to retain its good reputation, the company was forced to replace the hard disk units in all 286 and 386 PCs in circulation. Alan Sugar said that although the failure rate was nothing like that suggested by the press, it was nevertheless unacceptable to the company. He ended with a note of optimism, predicting that Amstrad would capture 30 to 40 per cent of the high end PC market by 1990...

- A computer game was taken off the shelves of WH Smith when it was discovered that it contained foul language. US Gold's *Skweek* featured a cutesy character which spoke by means of speech bubbles. Hackers cracked the code and inserted their own messages. Somehow they then managed to feed the hacked copies into the mainstream retail channels.

Future PUBLISHING

STAFF WRITER AMSTRAD ACTION

£ Salary negotiable - BATH

- Launched in 1985
- Now over 200 staff
- Market leader in computer titles
- Exciting launch plans
- Britain's fastest-growing publisher
- 15 national newsstand magazines – Amstrad Action • New Computer Express Amiga Format • ST Format • Amiga Power Amiga Shopper • PC Plus • PC Answers 8000 Plus • Your Sinclair • Commodore Format • Sega Power Classic CD Needlecraft Mountain Biking UK

Are YOU three people rolled into one? *Amstrad Action*, Britain's best-selling magazine for the Amstrad CPC, Plus and GX4000, needs a new Staff Writer to work at its offices in Bath. The successful applicant will be:

- A talented and creative writer. Have you got that spark of genius that sets you apart from the rest? You can prove it to us by sending a sample game review of 500 words with your application.
- An Amstrad nut. Do you know – have you played – just about every Amstrad game in existence? Can you hold your own in BASIC? Do you know a PL1 from a hole in the ground?
- An excellent administrator. On a busy magazine there's mail to be sorted, calls to take, letters to write, faxes to send – it's a job in itself.

Send your CV and a sample game review to: Lauren Evans, Human Resource Manager, at the address below.

Future Publishing Ltd, Beauford Court, 30 Monmouth Street,
Bath BA1 2BW Tel: (0225) 442244

DO YOU WANT TO BECOME A PROGRAMMER?

Established 1968

Move across to the rewarding world of IT

We have a series of short and long term training programmers in Computing and Information Processing.

* C & G 424/425 Certificate in applications programming.
* C & G 418 Computer Programming & Information Processing.
* Evening courses in DBASE, WP, Spreadsheet Analysis.
* Evening courses in Pascal, BASIC & COBOL.

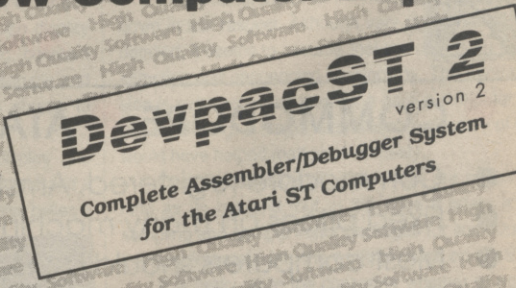
Contact Central London College on 071-580 4596.

TRAINING FOR YOUR FUTURE

★ ATARI ST ★ ATARI ST ★ ATARI ST ★ ATARI ST

A brilliant offer for readers of New Computer Express!

Devpac ST 2


DevpacST 2
version 2
Complete Assembler/Debugger System for the Atari ST Computers

FROM HISOFT ONLY £44.95

Devpac ST version 2 is widely regarded as the most powerful assembly language development system for the Atari ST. It incorporates a debugger, stand-alone assembler and a fast linker

SAVE £15

IT INCLUDES:

➤ **GenST** Assembler is a high-performance, full-featured, two-pass Motorola standard macro assembler at up to 75,000 lines per minute. It has multiple modules and sections, repeat loops and macro calls that may be nested as deeply as memory allows.

➤ **MonST** Debugger is an advanced symbolic monitor, debugger and disassembler. Now in addition it can offer multiple window display, full expression evaluator, up to 22 significant characters in symbols, viewing of source files and conditional breakpoints.

➤ **Example Files** of a wide variety including a full GEM type windowing application and an example desk accessory.

The package comes complete with an extensive ring-bound manual plus notes on the various operating system levels and debugging strategies.

Order now by phone from the NCE mail order service or send the coupon to our FREEPOST address.

HOTLINE NUMBER 0458 74011

Yes, I would like to order a copy of Devpac ST 2

Name________________

Address________________

____

____

Tel No________________

I would like to pay by Access Visa Cheque PO

Please debit my credit card

No________________

Expiry Date ________________

Tel. No________________

Send & make cheques payable to Future Publishing, FREEPOST, The Old Barn, SOMERTON, Somerset. TA11 7BR

RUTLAND COMPUTER SUPPLIES LTD

30 Buckminster Close,
Melton Mowbray,
Leics, LE13 1ET.
Collections welcome.
Please ring first.

VISA

OFFICE HOURS
9.00am to 7pm Monday to Friday
10.00am to 12 noon Saturdays
PHONE & FAX NO 0664 500878

Access

All prices include 17½ VAT

Post and Packing	**£3.50**
3 Day Courier	**£6.50**
Overnight	**£8.00**

★ LASER PRODUCTS ★
AVAILABLE

Any orders over £100 are sent by courier for just £4.50 !
(Published Prices Only)

All orders are despatched within 24 hours subject to stock availability

TOP QUALITY UNBRANDED DISKS AT DISCOUNT PRICES

3.5 DSDD Disks inc labels	39p each
3.5 DSDD Coloured Disks inc labels	45p each
3.5 DSHD Disks inc labels	99p each

All Disks are Guaranteed 100% Error Free

5.25 DSDD Disks	25p each
5.25 DSDD Coloured Disks	39p each
5.25 DSHD Disks	49p each

Packed with sleeves, Labels + W/P Tabs

STORAGE BOXES LOCKABLE, ANTI STATIC WITH DIVIDERS AND KEYS

3.5" BOXES	**£**
40 Capacity	4.60
80 Capacity	5.10
100 Capacity	6.10
120 Capacity	7.10
Banx Boxes to hold 80 3.5 disks	9.95
Posso Boxes to hold 150 3.5 disks	15.30
Posso Boxes to hold 70 5.25 disks	15.30

5.25" BOXES	**£**
50 Capacity	4.60
110 Capacity	5.20
120 Capacity	6.50

Cables

IBM PC Cables 1.8m Long	6.15
Centronics To Centronics Cable1.8m	9.50
2 Meter Joystick Extension Cable	4.95
RS232 Male - Male, Female - Female, Male - Female	8.50
Joystick/Mouse Extension Cable	3.95

WE CAN SUPPLY CABLES MADE TO ORDER PLEASE RING FOR A QUOTE

Computer Stationary Listing Paper

11" x 9.5"	60gsm	2000 sheets	17.00
11" x 9.5"	80gsm	2000 sheets	20.00
A4	70gsm	2000 sheets	19.00

QUALITY COMPATIBLE RIBBONS

ORIGINALS AVAILABLE ON REQUEST

MAKE		**GP**	**1+**	**5+**
AMSTRAD	LQ3500/8256	2741FN	3.15	2.50
	9512	2746FN	2.90	2.35
	DMP2000/3000	2482FN	2.66	2.10
BROTHER	M1009	2412FN	3.60	2.85
	M1509	2479FN	5.00	3.95
CANON	1156	2223FN	3.55	2.80
CITIZEN	120	2488FN	3.10	2.45
CITIZEN	SWIFT 24	2939FN	3.90	3.10
	SWIFT 24 COLOUR	ORIGINAL	17.00	16.00
EPSON	EX800	2774FN	3.35	2.95
	FX800/LX800/ MX/FX80	2273FN	2.95	2.35
	MX100	2320FN	3.30	2.60
	LX80/LX86	2454FN	2.15	1.70
	LQ800	2477FN	3.10	2.75
	LQ1000/1050	2478DN	3.70	2.90
	LQ2500	2795DN	4.05	3.20
	LQ2550	2877DN	4.05	3.20
NEC	P2200(+)	2844FN	3.30	2.60
OLIVETTI	DM1/200	2843FN	3.65	3.25
	DM105	2863FN	4.75	4.35
PANASONIC	KXP110	2228FN	2.95	2.35
	KXP1124	2904FN	2.95	2.35
	KXP1081	2904FN	2.95	2.35
STAR	LC10	2861FN	2.65	2.30
	LC10 COLOUR	2861COL	5.00	4.60
	LC24-10	2868FN	4.10	3.25
	LC24 10 COLOUR	ORIGINAL	12.50	11.80
	LC200	ORIGINAL	6.40	6.00
	LC24 200	ORIGINAL	9.00	8.00
	LC24 200 COLOUR	ORIGINAL	12.50	11.80
	LC200 COLOUR	ORIGINAL	12.00	11.00

THIS IS JUST A SMALL SELECTION OF RIBBONS
IF YOUR PRINTER IS NOT LISTED - PLEASE RING FOR A PRICE

COMPUTER REPAIRS
AND UPGRADES

Access

VISA

● COMMODORE ● ATARI ● AMSTRAD ● SINCLAIR ● IBM ●

- Commodore registered, Amstrad authorised
- Fixed prices on many machines.
- Most computers should be repaired 24hrs from booking in
- Over 3500 square foot engineering complex at your disposal
- First class technical advice available from over 20 technicians/engineers

Amiga 500	£44.95
Atari 520 STFM	£15.00
Commodore 64	£29.00
Spectrum 48K	£27.00
Spectrum +2	£29.00
Spectrum +3	£35.00
Spectrum 128K	£24.00
Amstrad 464	£32.00
Amstrad 6128	£36.00
IBM/Clone	P.O.A.
Other Machines	P.O.A.

(£25 additional premium if disk drive unit or keyboard are not repairable and require complete replacement)
Diagnostic fee plus quote (Typically £45.00)

PREMIUM SERVICE

To utilise our premium service simply send or hand deliver your machine to our workshop address below, enclosing a fault description and daytime telephone number plus payment, and we will do the rest. Please add £5.00 if you require 24hr to your door courier or else contract parcel post will be used.

(W.T.S. reserve the right to refuse machines which are in our opinion beyond economic repair - Handling charge may be applicable

TEL: 0582 491949

W.T.S. ELECTRONICS LTD, Chaul End Lane, Luton, Beds., LU4 8EZ.

DEFINITION OF SOUND

Daatasound is a new sampling/sequencing package that looks expensive but comes cheap. Dave Golder delves beneath its glitzy presentation

PRODUCT: Daatasound 8-bit sampler/sequencer package
COMPATIBILITY: Atari ST/STE
FROM: Pandaal Marketing
CONTACT: 0234 855666

The first thing that strikes you when you load Pandaal's latest sound sampling and sequencer package, Daatasound, is that on screen it looks magnificent. But, as the old adage goes, you should never judge a book by its cover, and with packages such as these, features and sound quality count more than aesthetics. So does it come up with the goods?

Costing just £29.95, Daatasound is a very low cost 8-bit stereo sampling and sequencing package for the Atari ST and STE . It enables you to create samples of music, sound effects or dialogue captured from electronic sound sources such as a hi-fi system, radio or even a Walkman. The samples can then be edited and treated to a number of effects, such as stutter and echo. The sequencing software then enables you to use up to 18 of your samples to create a musical track.

WHAT'S IN THE BOX?

The package comprises the sampling and sequencing software, the sampling cartridge and a manual. Conspicuous by its absence is any kind of lead. Granted, you might want to sample from a number of sources, but one lead which plugs into the cartridge with a, say, a phono connection at the other end would have been very useful, as that would have been perfect for a large number of hi-fi systems, and it would be a fairly inexpensive move to buy a Walkman jack if you had to.

Once you find a lead, setting up is quick and simple. You just plug the sound source into the cartridge, plug the cartridge into the ST ROM cart port (to the left of the machine), switch on and load the software.

The impressive-looking frontend belies a fairly limited range of features

Making a sample simply involves turning on the sound source (ie pressing the play button usually) and clicking on the RECORD icon. The window at the top of the screen gives a graphic representation of a sample stored in the memory. Below this is the Scope display which represents the source signal; a strong, constant moving wave is necessary to make a good sample and you can adjust the volume on the sound source to achieve this.

As mentioned previously, the main display and working area looks magnificent, with lots of colour and a plethora of friendly-looking icons. However, this belies a fairly limited range of features. These include such things as loop, flip, cut, copy, paste, splice, fade in/out, echo, amplify, soften and pitch bend – all fairly basic sample editing techniques that most sampling packages will include.

DIRECT
CONCEPTS
ATARI 1040ST

• For a cheap sampler Daata sound certainly has some extremely impressive graphics, but in terms of features it provides little more than the bare minimum.

One very useful feature, though, which is not only unusual for a music package, but also for most serious software, is the ability to format a disk while still inside the program. A minor point, but very useful if you suddenly find you need to save a sample and you don't have any suitable disks to hand.

An annoying feature is the fact that you can only sample at six certain speeds: 6, 7, 12, 15, 20 and 25KHz. While this fine most of the time, it does create difficulties if you want to import samples created in other programs recorded at a different speed.

SOUNDS ROUGH

The sound quality is also a bit rough when compared with some of the more expensive sampling packages on the market. More experienced computer musicians might find this annoying, but it is still adequate enough for dabblers in the ST music field.

Indeed, at the price Daatasound does seem ideal as an introductory package for people new to the digital sampling and sound editing.

It's a shame, then that the manual rather lets things down in this respect. Although very clearly laid out and detailed, it seems to assume that the user is *au fait* with sampling and sequencing terminology. The tutorial session is extremely brief and, for a novice computer user, very confusing. A longer tutorial and a glossary of terms would have helped matters immensely.

Overall, Daatasound's capabilities are not as stunning as its frontend, but at the price it offers a great sampling and sample editor packages for someone taking their first steps into the world of music on the ST.

It is really up to the consumer whether or not they want to spend the extra £15 or so these packages usually cost for a better range of features and slightly superior sound quality. ■

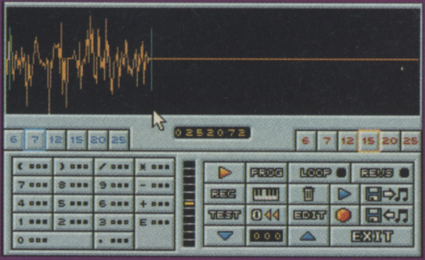
CREATING A SEQUENCE

You can use the sequencing software to create a musical track using up to 18 different samples. These samples can only run concurrently, so you can't build up complex multi-layered pieces of music, but some fairly impressive results are still obtainable if you start off with some decent samples in the first place.

To create a sequence first call up the sequencer display panel (above) by clicking on the SEQUENCER icon on the main viewing area. Then you have to assign one sample to each of the keys on the numeric keypad cluster to the right of your ST keyboard (there are 18 of them – count them! – which is why you are limited to 18 samples per sequence). This is done by selecting the required sample, selecting the PROG icon then pressing the desired key on the numeric keypad.

You then record the sequence by selecting the REC icon and pressing the key on the numeric keypad which corresponds to the sample you want. By repeating this several times you build up a sequence.

The software is also MIDI compatible and allows a MIDI keyboard to be used with the sequencer; you can play the sample using the keyboard as opposed to the ST keypad.



• The sequencer enables you to create musical tracks using up to 18 different samples using the soft keypad.

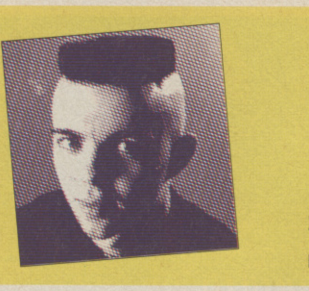
The resulting sequence will hardly be a piece of musical genius, but Daatasound is useful for creating, say, percussion tracks which can then be used as just one element in a greater musical scheme, whether that be in another composition program, or to accompany you when you play live on stage.

PROS AND CONS

PROS
- ▲ Very impressive main area display
- ▲ Easy to set up
- ▲ MIDI compatible
- ▲ Allows you to format a disk while still running the program

CONS
- ▼ Limited range of features
- ▼ Sound quality is not very good
- ▼ Unfriendly manual is unsuitable for beginners
- ▼ The fixed choice of six sample rates is restrictive

Cost £29.95



Games Week

Stuart 'Scorer' Campbell sticks up his points card and gives those games a real rating – from the atrocious unplayable to the amazingly adventurous

STAR RATINGS

★ ★ ★ ★ ★ = Wild At Heart
★ ★ ★ ★ = Blue Velvet
★ ★ ★ = Elephant Man
★ ★ = Eraserhead
★ = Dune

RANT NUMBER 1

You might notice that from this week, we're no longer printing the 'real' 16-bit and 8-bit top 10 charts. Despite being the only charts to have any worthwhile meaning at all, we've been forced to dump them and stick with separated full-price and budget charts.

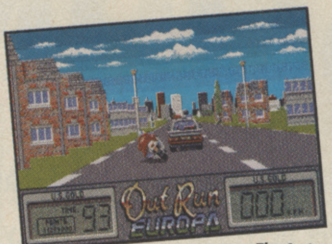
The reason for this is that those lovely ELSPA people have seemingly decreed that Gallup, the company which puts the charts together, are no longer to be permitted to compile a chart of games based purely on sales, without regard to price. This makes me angry. In an all-prices chart, you can see which full-price games are so good that they're managing to outsell the cheapies, as well as still being able to tell for yourself which are the best-sellers in the two individual areas.

Separated charts have no relevance other than to themselves and serve no purpose for anyone other than software house PR departments. Speaking for myself, I'm getting just a little fed-up with this self-appointed governing body's dictatorial attitude, but perhaps I'm over-reacting.

What do you think, do you want to see real charts or glorified advertisements? Write and tell me at 'Give 'Em A Uniform And They Think They're Hitler', *NCE*, 30 Monmouth St, Bath, Avon BA1 2BW.

RUN RUN RUN

What, again? US Gold's original sequel to Sega's mammoth coin-op success ***Out Run*** was mooted as far back as 1987, and indeed some magazines even put it on their cover at the time. It never saw the light of day, though, as the official arcade follow-up ***Turbo Out Run*** stole its thunder, and Europa disappeared into the history books.



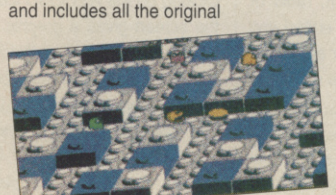
• *The Amiga version of Out Run Europa - apparently the graphics are already bigger than this...*

Now, however, USG has decided that the time is ripe for a third *Out Run* computer game, and both the 16-bit and 8-bit versions are well under development.

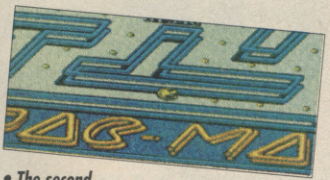
It isn't the same game from all those years ago, but a completely new re-working of the theme, which puts the player in charge of a whole series of vehicles from a jet-ski to a motorbike and a Porsche. From the Amiga and C64 work-in-progress versions I've seen it's looking good, so watch out for it in a couple of months' time.

PACMANIA

This week sees the release of ***Pacmania*** on the Sega Master System, the first Sega game from UK firm Tecmagik. It's a conversion of the Namco arcade game and includes all the original features, as well as some extra secret bonus features that weren't in the coin-op.



• *Cultures merge as Pac-Man visits LegoLand in Pacmania*



• *The second level will seem strangely familiar to veteran Pac-fans*

The game gives the Master System a real workout, but it holds up to the challenge with arcade-true graphics, smooth scrolling mazes, and generally everything you could possibly want from a Pac-Man game. The playability seems to be balanced at just the right level, and despite a rather hefty-sounding £29.99 price tag, this is a must buy for Master System arcade fans.

HERE IT COMES AGAIN

This week: RACING GAMES

Fans of just about every game genre are well catered for by the burgeoning re-release industry, but there's one area where there's surprisingly little to be found. I feel a need for speed coming on...

Out Run (Kixx • £7.99 for 16-bits • £3.99 for 8-bits

Given a bit of extra relevance by the forthcoming (and long-awaited) release of *Out Run Europa*, this Kixx release is a strange kettle of contradictions.

Out Run was one of the biggest arcade successes of all time, and also one of the biggest computer-conversion disasters of all time. All the 8-bit versions were atrocious, and the ST version left

TOP 10 ALL FORMATS GAMES

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	NE	*Man United Europe*	Krisalis	SP CO AM ST AG
2	1	*Sonic the Hedgehog*	Sega	OT
3	2	*Hero Quest*	Gremlin Graphics	SP CO AM ST AG
4	4	*Dizzy Collection*	Codemasters	SP CO AM
5	12	*Lemmings*	Psygnosis	ST AG PC
6	3	*F15 Strike Eagle 2*	Mircoprose	ST AG
7	14	*Super Monaco*	US Gold	SP CO AM ST AG
8	RE	*Super Mario Land*	Nintendo	OT
9	17	*Monkey Island*	US Gold	ST AG
10	9	*Big Box*	Beau Jolly	SP CO AM ST AG

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible SP = Spectrum
CO = Commodore 64 AM = Amstrad OT = Other.
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

HATSTAND CORNER

It seems that there's hardly a movie released these days without having a computer game licence attached to it, but not many people know that the recent Oscar-winning *Driving Miss Daisy* was actually the subject of much wheeling and dealing for the acquisition of the micro rights.

Negotiations were close to completion until the movie company saw an early demo from the unnamed software house, consisting mostly of a second-rate Chase H.Q. clone, and promptly pulled out of the deal. Malicious gossip has it that the game later re-appeared as Millennium's dire *Moonshine Racers*, but I wouldn't know anything about that.

FRENETIC

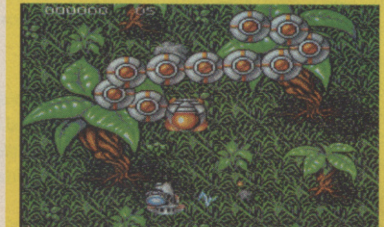
Core Design • Amiga, ST • £20.99 ★ ★

After the huge critical success of *Chuck Rock*, Core seems to have chosen to consolidate its position for a while, with a couple of distinctly run-of-the-mill-style arcade games.

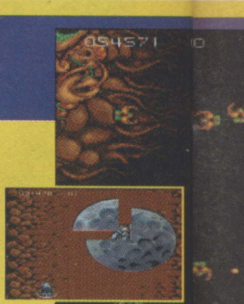
First came *Warzone*, which was a very competent, but uninspired *Ikari Warriors* clone, and now *Frenetic* has appeared, borrowing heavily from a long line of vertically-scrolling shoot-'em-ups which includes Electronic Zoo's *Battle Squadron* and Image Works' *Xenon II*.

Sadly though, despite all its inspirations, *Frenetic* fails to add up to the sum of its parts. While the graphics are all very pretty, the scrolling fast and smooth, and the sound loud and violent, the gameplay never really grabs, and what you're left with is a curiously empty-feeling blaster which lacks the all-important character needed to make you want to play it more than twice.

It's got all the right ingredients, lots of tough baddies and all the usual power-ups and end-of-level bosses, but like Frankenstein's monster, it just hasn't got that vital spark of life. I didn't like this game, I didn't hate it, I just couldn't work up the interest to have any kind of feelings about it at all. Indifference on a disk. ■

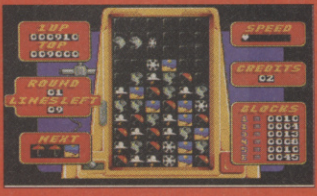


• *The first bad guy you meet, and my, isn't he a big one? Luckily, before any enemies appear the game chucks a few free power-ups at you, so you should be able to make short work of even the toughest aliens on this level.*



• *The first end-of-level boss looks mean, but he's just a big pussycat. He never comes right into the corners of the screen, so simply hide there until one of his quarters moves, shoot it until it blows up, then blast ship. Easy.'*

BEG, BORROW AND BURN



• *Looks like a rainy day in* **Shack Up.**

BEG

STACK UP • Zeppelin • Amiga • £7.99

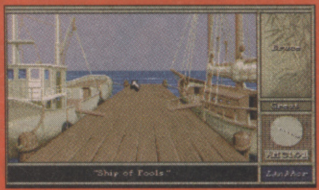
I reviewed the Speccy version of this sweet little Columns-style puzzle game a couple of weeks ago, but the Amiga version is now available, featuring even smoother gameplay, cute little graphics and a completely adorable Oriental background tune to whistle along to.

A must for *Tetris* fans.

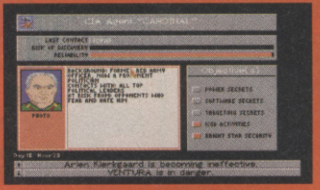
BORROW

MAUPITI ISLAND • Lankhor • Amiga • £25.99

This charming and different adventure was a huge hit on the continent, but this translated version might be just a touch too slight for UK gamers. What's there is rather lovely, it's just that there isn't very much of it. Try for yourself, but don't expect it to last for weeks.



• *It's only a short cruise to* **Mapifi Island.**


Arlen Kierkgaard is becoming ineffective.
VENTURA is in danger.

• *The* **Cardinal of the Kremlin** *must die.*

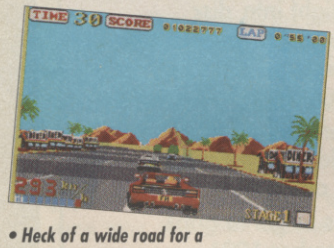
BURN

THE CARDINAL OF THE KREMLIN • Accolade • Amiga• £25.99

This quite engrossing strategy game based on the Tom Clancy book is actually pretty respectable. Until, that is, you stumble across the ludicrous and banal arcade game dropped right into the middle of it. A potentially good game, completely ruined by stupid design.

much to be desired also, but all racked up enormous sales around the Christmas 1988 period. Some time later, the Amiga version finally appeared and while it wasn't perhaps surprising that it was the best of the lot, it nonetheless gave many people a bit of a shock by actually being very good.

The graphics were crisp and elegant, sound and presentation were dramatic and slick (in that order), and for once the gameplay held together too. It's still one of the prettiest racing experiences around, but for Amiga owners only.

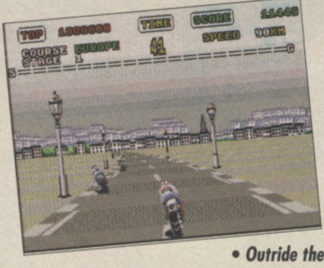


• *Heck of a wide road for a beach track, isn't it?*

Super Hang-on Hit Squad • £7.99 for 16-bits • £2.99 for 8-bits

Sega's lightning-fast coin-op was always going to be a tough conversion job, but cult programming hero ZZKJ took up the challenge and produced some of the most remarkable arcade feels seen on the home micros to this day. From the Spectrum to the Amiga, *Super Hang-On* looks, feels and plays like the real thing, with superb adjustable controls and speed that keeps your heart in your mouth from the start to the end of every winding, dipping and rolling course.

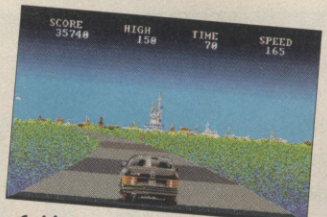
The graphics aren't much to shout about, but this is a thrilling, gripping game which can still show a thing or two to any of today's road racers. Whichever machine you own, this is a completely essential addition to your software collection. If you haven't got it, do something about it. Now.



• *Outride the 'good game' crisis with* **Super Hang-On'**

Crazy Cars• Hit Squad • £7.99 for 16-bits • £2.99 for 8-bits

This game was originally released by Titus and was the first in a series of striped-landscape-into-the-screen-scrolling driving games which earned them a richly-deserved bad reputation which was to dog them for quite some time afterwards.



• *Cruising on (yet another) open road in* **Crazy Cars.**

The only thing crazy about the cars of the title was the way they leapt unfeasibly into the air when they collided with one of the other cars which occasionally popped up on the otherwise featureless roads. Oh, and the way they glided sideways like a rather jumpy hovercraft when turning left or right. Abysmal on all formats, the Spectrum version is arguably the worst, due to the complete absence of any level of challenge whatsoever, but the others are just as unplayable, and in relative terms the 16-bits (ST especially) probably have the worst graphics. This is a real 2CV of a game, except without the cult quality. Avoid like an angry crocodile with the plague. And toothache.

HELP MA BOAB!

What's that you say? You just can't kill that end of level baddie? Can't find the secret room? Just state the name of the game and your problem, and send to:

HELP MA BOAB!, Games Week,
New Computer Express, 30 Monmouth Street, Bath, Avon BA1 2BW ■

TOP 10 16-BIT GAMES

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	NE	*Man United Europe*	Krisalis	ST AG
2	1	*Sonic the Hedgehog*	Sega	OT
3	4	*Xenon 2*	Mirror Image	ST AG PC
4	8	*Lemmings*	Psygnosis	ST AG PC
5	3	*F15 Strike Eagle 2*	Microprose	ST AG PC
6	6	*North and South*	Digital Integration	ST AG PC
7	18	*Monkey Island*	US Gold	ST AG PC
8	14	*Fantasy World Dizzy*	Codemasters	ST AG
9	16	*Ninja Rabbits*	Micro Value	ST AG
10	2	*Lombard RAC Rally*	Hit Squad	ST AG PC

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible OT = Other
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

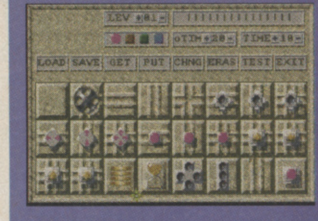
LOGICAL

Rainbow Arts

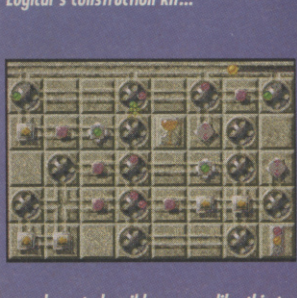
(Continued from last week)

Cry no more those tears of sorrow, here are the last 40 codes for this testing puzzle game. The last code is the one which allows you to access the game's built-in construction kit and design your own levels, so you can say goodbye to those 'no-more-screens-to-play' blues forever!

61 - WILD AT HEART
62 - THE DARK AGE
63 - DIMLIGHTS
64 - THE FIFTIES
65 - PICTURE OF HER
66 - GORDIAN KNOT
67 - HIGH SPEED
68 - ALEXANDRIA
69 - RUNNING TEARS
70 - HER RAINBOW
71 - WALK IN CREAM
72 - TOUCH HER
73 - SHADOWLAND
74 - JACK IN BAG
75 - VITAMIN C
76 - STUNT BALL
77 - MIRRORLAND
78 - ACE QUEST
79 - BOA BOA BOA
80 - DA DA DA
81 - HAUNTED HOUSE
82 - THE SECRETS
83 - SMILING JOKE
84 - CHILDREN GO
85 - IT IS ATLANTIS
86 - ON THE ROAD
87 - BLUE IS FIRST
88 - WOLFS MOON
89 - WILD CHINA
90 - ITS LOGICAL
91 - SHE COMPARES
92 - BIG MOUNTAINS
93 - TOMORROW
94 - TELEPORTER JAM
95 - LEVER SUNLIGHT
96 - NEW EXODUS
97 - THE PEACEPIPE
98 - FINAL SURPRISE
99 - WHITE MIAMI
100 - THE FINAL CUT
(CONSTRUCTION KIT)

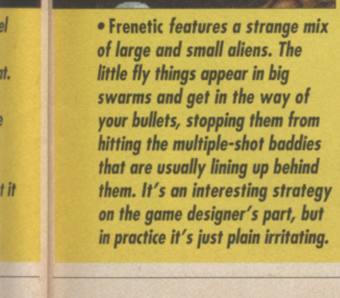


• *Yes, now you too can play with Logical's construction kit...'*



...and create horrible screens like this to torture yourself with. You sick person.

GAMES REVIEW



• *Frenetic features a strange mix of large and small aliens. The little fly things appear in big swarms and get in the way of your bullets, stopping them from hitting the multiple-shot baddies that are usually lining up behind them. It's an interesting strategy on the game designer's part, but in practice it's just plain irritating.*

THE AMAZING NEW 16 BIT BUDGET RANGE

AMIGA

ATARI ST

IBM PC

THE 16 BIT POCKET POWER COLLECTION

PRISM LEISURE CORPORATION

16

16

The 16-Bit Pocket Power Collection brings a new dimension to Budget Software as we know it. With a superb range of quality titles to choose from at only £2.99 each, this exciting new range offers incredible value for money and is a must for all dedicated 16 bit gamers.

ONLY £2.99

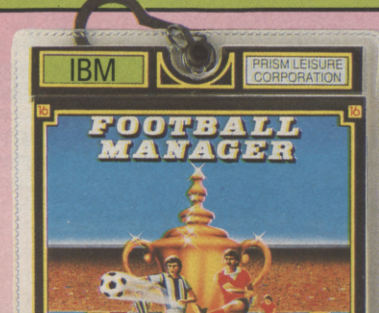
- Unbeatable budget retail price for any collection of it's kind - only £2.99 each.
- Massive product range including 16 titles on Amiga, 13 titles on Atari ST, and 3 titles on IBM - catering for all 16 Bit user types.
- Compact packaging design, ideal for filing straight into disc storage cases and collecting the complete series.
- Comprehensive game instructions printed on inlay reverse providing a compact easy to use "all in one package".
- 16 more titles to get to grips with by September 1991.

16 TITLES FOR AMIGA

3 TITLES FOR IBM PC

13 TITLES FOR ATARI ST

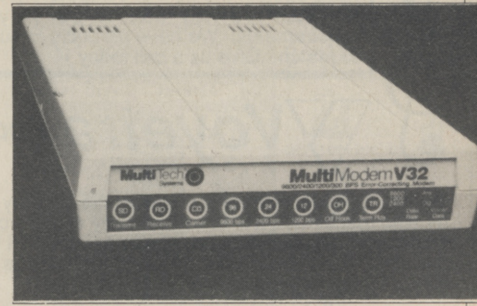
AMIGA
PRISM LEISURE CORPORATION
Thai Boxing
ANCO
THE 16 BIT POCKET POWER COLLECTION


IBM
PRISM LEISURE CORPORATION
FOOTBALL MANAGER
THE 16 BIT POCKET POWER COLLECTION

ATARI ST
PRISM LEISURE CORPORATION
KARTING GRAND PRIX
ANCO
THE 16 BIT POCKET POWER COLLECTION

**SEE YOUR LOCAL SOFTWARE RETAILER
WHILE STOCKS LAST**

WORD ON THE WIRE



• The flashing LEDs on the front of Multitech's MultiModem V32 may boggle your senses, but will the modem's speed have the same effect?

In the past, modems have been called the ultimate expansion devices for computers. Tim Howell takes Multitech's MultiModem V32 to its limits to see if it lives up to the modem reputation

PRODUCT: **MultiModemV32 MT932EK**
MACHINE: **Amiga, ST, PC**
FROM: **Multidata Communications**
CONTACT: **0793 782450**

Modems enable computers to hook up to other modem-equipped machines, whether they are only next door or on the other side of the world. They open up many possibilities, ranging from transferring files between modems to hooking up to bulletin boards.

As times goes by, modems get faster. Transferring at speeds of 9600 baud (bits per second), the Multimodem V32 certainly has. It is equipped with various compression standards to increase data throughput at lower baud rates.

The MultiModem is a small, light and attractive external modem. It sits on the desktop, with Light Emitting Diodes (LEDs) informing the user of what it is doing and how fast it is running. Documentation for it is thorough and well set out. It comes with two manuals: one which covers what the modem can do and how to use it; the other details advanced features.

GETTING ON-LINE

Setting up the modem is straightforward. It is connected by a serial cable to the host machine. Its separate power supply can be placed anywhere. From there all that needs to be done, at least in hardware terms, is connecting the built-in phone lead to a standard BT phone socket.

The next hurdle is terminal software as none is included. However, a wide range of quality programs are available in both the Public Domain and commercially. These vary in sophistication, but even the most basic programs are adequate.

AMIGA AND ST COMMS SOFTWARE

AMIGA:
NComm v1.9 **- a good quality, well-featured PD comms program**
JRComm **- also a very good program**
Access! **- a commonly available PD program, but not as good as NComm or JRComm**
Ruby Term **- commercial, for Viewdata systems**

ATARI ST:
Vanterm **- very good PD program**
Uniterm **- also good PD**
Mini Office 2 **- a comms package which is not as good as PD Otherwise, there are no really good commercial programs available.**

This automatic modem is controlled by the Hayes command set, which is a common standard. 'Intelligent' features include the ability to both automatically dial numbers and answer calls (from other modems). It can store the user's settings and commonly used numbers in memory, automatically changing to suit the baud rate and parity of an incoming call.

9600 baud modems are becoming more common and less expensive, but are still not widespread. Not only that, there are actually a number of different 9600 baud standards, such as the HST protocol from US Robotics and Miracom. The most common one, and the one that is supported by the MultiModem, is V32. However, it seems that many Amiga-dedicated BBSs use the HST standard more. Some HST modems can cope with V32 as well, but it may be a bit limiting for Amiga owners who don't have both standards.

> **As times goes by, modems get faster. Transferring at speeds of 9600 baud, the Multimodem V32 certainly has**

The MultiModem can also work at speeds of 300, 1200, 2400 and 4800 baud. Of these speeds, only the baud rates from 1200 upwards are really useful. 1200 baud is probably the most common speed, but most BBSs are equipped with at least 2400 baud modems.

Throughput is helped by its V42 error correction and MNP 5 data compression features. V42 includes both LAP-M and MNP classes 2-4 as error correcting options. Error correction works by checking the data sent by the host (ie BBS) machine with that is received at the other end. This is done through hardware and not software, such as transfer protocols like XModem and ZModem, which can work with any modem. Only modems equipped with V42 and MNP error correction can use those protocols.

Data compression is provided by the MNP 5 protocol, which can increase throughput up to a ratio of 2:1, or 19200 baud. Data compression is really only effective on files which haven't already been compressed by other methods. This means that simple text files would be transferred faster, but executable files, or ones that have been compressed prior to being transferred are negligibly improved, if improved at all.

SPECIFICATIONS

Baud rates: CCITT 300, 1200, 1200/75, 2400, 4800, 9600
Standards: CCITT V21 (300 baud), V22 (1200), V23 (1200/75), V22bis (2400), V32 (9600/4800).
Compression protocols: V42 & MNP levels 1-4 error correction, MNP 5 data compression.

The modem is capable of both pulse and tone dialing; the former is necessary in places where BT hasn't upgraded to digital System X exchanges.

There is a small delay when issuing a command to the modem and having the command carried out, but this is not really a problem. The LEDs on the front panel of the modem keep you informed of what it's doing.

Switches on the front control its baud rate and whether it's originating or answering a call. Having a switch to control the baud rate on a high-end modem like this is a bit unusual, as it's often done through the software. However, rather than fiddling around with software, it is convenient to just switch between speeds.

Apart from these standard features, the MultiModem has a number of extras. One of these is a password feature. Another feature, which could be useful, say, if the modem is being used to run a BBS, is that it can be remotely configured. This means that the owner of the modem can call it up just like any other person, but they can change the settings of it or whatever they want to do.

DROPPING THE CARRIER

The MultiModem is a good, solid piece of equipment. For the average user it may be a bit too advanced to take complete advantage of, not to mention a bit expensive. However, if you want a modem, that's reliable and easy to use, then take a look at this. ■

SO, WHAT'S THE VERDICT?

FOR
▲ **Many features**
▲ **BABT approved**
▲ **Reliable**

AGAINST
▼ **No software included**
▼ **Possibly too advanced for inexperienced users**
▼ **The telephone bill!**

PRICE **£999**

IBM PC MUSIC SOFTWARE

If you want to make music with your PC, talk to us. We have been in the field of computer music for six years, and our staff are fully able to advise you on your music requirements. We have products to suit all tastes at prices to match. Give us a call today !

Voyetra **Sequencer Plus Version 4**

Voyetra Sequencer Plus is arguably the industry standard sequencer for IBM machines. It is in use in many commercial recording studios worldwide. Version 4 supports almost all MIDI interfaces (including the IBM PS/1 MIDI card) and sound cards (including Ad Lib, SoundBlaster & Roland LAPC-1 cards).

*'**an extraordinary sequencer**...maintaining an admirable balance between editing power and straightforward operation.'*

PC Magazine

*'**One of the best American sequencing programs**...is Sequencer Plus...**it hasn't crashed once**. How many other programs can you say that about ?'*

Sound on Sound

Voyetra Music Packages

Voyetra SPJunior & V22 MIDI interface	£139.00
Voyetra SPJunior & SoundBlaster sound card	£249.95
Voyetra SPJunior & Roland LAPC-1 sound card	£320.00

Music Printing Software

Dr. T Copyist Apprentice	£99.00
Songwrite 5	£125.00
Laser Music Processor	£149.00
Coda Finale 2 (Music DTP under Windows 3)	£699.00

These are just a few of our products. Please call for a catalogue.

Computer MUSIC Systems Ltd

No-one knows PC music better !

5-7 Buck Street,
London NW1 8NJ.
Tel 071-482 5224

IBM PC MUSIC SOFTWARE

If you want to make music with your PC, talk to us. We have been in the field of computer music for six years, and our staff are fully able to advise you on your music requirements. We have products to suit all tastes at prices to match. Give us a call today !

Voyetra **Sequencer Plus Version 4**

Voyetra Sequencer Plus is arguably the industry standard sequencer for IBM machines. It is in use in many commercial recording studios worldwide. Version 4 supports almost all MIDI interfaces (including the IBM PS/1 MIDI card) and sound cards (including Ad Lib, SoundBlaster & Roland LAPC-1 cards).

*'**an extraordinary sequencer**...maintaining an admirable balance between editing power and straightforward operation.'*

PC Magazine

*'**One of the best American sequencing programs**...is Sequencer Plus...**it hasn't crashed once**. How many other programs can you say that about ?'*

Sound on Sound

Voyetra Music Packages

Voyetra SPJunior & V22 MIDI interface	£139.00
Voyetra SPJunior & SoundBlaster sound card	£249.95
Voyetra SPJunior & Roland LAPC-1 sound card	£320.00

Music Printing Software

Dr. T Copyist Apprentice	£99.00
Songwrite 5	£125.00
Laser Music Processor	£149.00
Coda Finale 2 (Music DTP under Windows 3)	£699.00

These are just a few of our products. Please call for a catalogue.

Computer MUSIC Systems Ltd

No-one knows PC music better !

5-7 Buck Street,
London NW1 8NJ.
Tel 071-482 5224

IBM PC MUSIC SOFTWARE

If you want to make music with your PC, talk to us. We have been in the field of computer music for six years, and our staff are fully able to advise you on your music requirements. We have products to suit all tastes at prices to match. Give us a call today !

Voyetra **Sequencer Plus Version 4**

Voyetra Sequencer Plus is arguably the industry standard sequencer for IBM machines. It is in use in many commercial recording studios worldwide. Version 4 supports almost all MIDI interfaces (including the IBM PS/1 MIDI card) and sound cards (including Ad Lib, SoundBlaster & Roland LAPC-1 cards).

*'**an extraordinary sequencer**...maintaining an admirable balance between editing power and straightforward operation.'*

PC Magazine

*'**One of the best American sequencing programs**...is Sequencer Plus...**it hasn't crashed once**. How many other programs can you say that about ?'*

Sound on Sound

Voyetra Music Packages

Voyetra SPJunior & V22 MIDI interface	£139.00
Voyetra SPJunior & SoundBlaster sound card	£249.95
Voyetra SPJunior & Roland LAPC-1 sound card	£320.00

Music Printing Software

Dr. T Copyist Apprentice	£99.00
Songwrite 5	£125.00
Laser Music Processor	£149.00
Coda Finale 2 (Music DTP under Windows 3)	£699.00

These are just a few of our products. Please call for a catalogue.

Computer MUSIC Systems Ltd

No-one knows PC music better !

5-7 Buck Street,
London NW1 8NJ.
Tel 071-482 5224

IBM PC MUSIC SOFTWARE

If you want to make music with your PC, talk to us. We have been in the field of computer music for six years, and our staff are fully able to advise you on your music requirements. We have products to suit all tastes at prices to match. Give us a call today !

Voyetra **Sequencer Plus Version 4**

Voyetra Sequencer Plus is arguably the industry standard sequencer for IBM machines. It is in use in many commercial recording studios worldwide. Version 4 supports almost all MIDI interfaces (including the IBM PS/1 MIDI card) and sound cards (including Ad Lib, SoundBlaster & Roland LAPC-1 cards).

*'**an extraordinary sequencer**...maintaining an admirable balance between editing power and straightforward operation.'*

PC Magazine

*'**One of the best American sequencing programs**...is Sequencer Plus...**it hasn't crashed once**. How many other programs can you say that about ?'*

Sound on Sound

Voyetra Music Packages

Voyetra SPJunior & V22 MIDI interface	£139.00
Voyetra SPJunior & SoundBlaster sound card	£249.95
Voyetra SPJunior & Roland LAPC-1 sound card	£320.00

Music Printing Software

Dr. T Copyist Apprentice	£99.00
Songwrite 5	£125.00
Laser Music Processor	£149.00
Coda Finale 2 (Music DTP under Windows 3)	£699.00

These are just a few of our products. Please call for a catalogue.

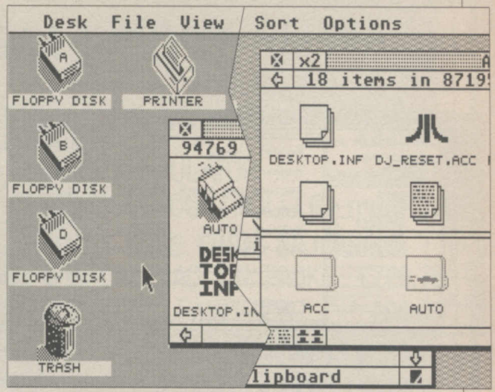
Computer MUSIC Systems Ltd

No-one knows PC music better !

5-7 Buck Street,
London NW1 8NJ.
Tel 071-482 5224

DESKTOP DYNAMICS

A new Atari ST desktop package promises more choice for the user and keener competition for established products. Nial Grimes reports



• DC Desktop (left) differs in its visual layout to NeoDesk 3 (right) and both dispense with GEM.

PRODUCT: DC Desktop
FROM: Softville Computer Supplies
CONTACT: 0705 266509

PRODUCT: NeoDesk 3
FROM: Electric Distribution
CONTACT: 0480 496666
COMPATIBILITY: Atari ST

We all know what a user friendly machine the ST is, but the GEM desktop can be trying at the best of times. Fortunately, we are not stuck with Atari's in-built offering and there is a host of utilities to improve GEM's usability. These range from enhancements to full blown replacements.

DC DESKTOP VS NEODESK 3

For a long time the only package to offer significant improvements to the desktop was NeoDesk. Now, from US company Double Click Software, comes the DC Desktop; both claim to be the ultimate desktop replacement, but which should you choose for your system?

Although both packages are, in a broad sense, 'desktop replacements' they approach the problem in different ways. NeoDesk completely kicks out the GEM desktop in favour of its own environment while DC Desk takes a more modular approach, leaving all GEM options intact but offering enhancement through a collection of utilities accessible from the function keys.

Both approaches have their advantages, DC Desktop can run on a very small amount of memory because only the utilities you will use need be loaded. Even if you decide to use a utility that is not in memory, pressing its assigned function key will give you the option to load it. NeoDesk offers its own custom menu, avoiding the need to constantly reach for the function keys.

INSTALLATION

DC Desk comes packaged with a very professional looking 96 page manual but this, unfortunately, does not extend beyond the looks. The installation section of the NeoDesk manual suffers from the same problem, taking a whole page to describe how to install the program when 'Copy the NEODESK3 folder on to your boot/a newly formatted disk' would have done. It has to be said however, that on the whole the NeoDesk 3 manual is very good, containing full, clear explanations of all functions together with an introduction to GEM for those not familiar with the desktop.

Before you can run either package you need to register your copy by entering your name and address, which is then written into the program to foil software piracy. This seems to be standard practice for American software and is far better than copy protecting professional software.

I SEE NO BORING ICONS

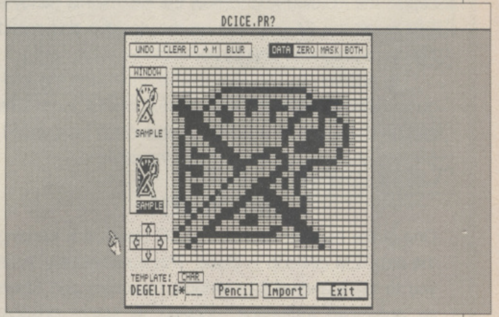
One of the most immediately apparent advantages of a replacement desktop is the custom icons. A disk drive, rather than looking like a filing cabinet, now looks like a disk drive! You are not limited in either package to the icons supplied and can design your own icons to suit each individual program/device; these can, resolution permitting, be in colour.

DC Icon Editor (DC Ice), can remain memory resident or can be loaded when needed. Icons designed are stored in a file called DCDSKTOP.ICE and each disk can have its own icon file for the programs contained on that particular disk. The NeoDesk icon editor is loaded when selected from the GEM menu bar and most desktop operations can still be carried out while the icon editor is loaded.

NeoDesk completely kicks out the GEM desktop in favour of its own environment while DC Desktop takes a more modular approach

In terms of features, neither icon editor has a clear advantage, but the NeoDesk Icon Editor is a little more powerful. Both icon editors do a good job and, considering how infrequently you will use them, are surprisingly well featured.

As handy as folders are to keep your disks in order, finding a file nested eight folders deep is no fun. It is for this reason that both programs allow you to drop icons on the desktop itself. Double clicking on the file will act



• DC Desktop's Icon Editor enables you to construct your own icons, which can add real style to your desktop.

YOU CAN'T GET QUICKER THAN A *QUICK ST* BLITTER

DC Desktop and NeoDesk certainly cheer up the desktop, but all the custom icons and extra colours take their toll on the speed of your ST if it is not fitted with a blitter chip. Fortunately, there is a cheap solution in the form of *Quick ST*.

Quick ST replaces GEM's archaic C graphics handling routines with its own routines, written in fast, efficient 68000 assembly language. The degree of speed that *Quick ST* will deliver depends on your configuration; if no blitter is present the increase is staggering. Running *Quick ST* on a blitter ST, the increase on graphics operations is barely noticeable although text output is speeded up.

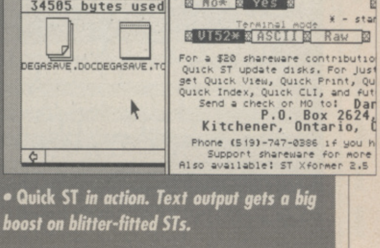
Most programs are compatible with *Quick ST* but should problems occur you have the option to disable one or all of the enhancements. Commercially available software blitters solve some compatibility problems, but in most cases cost as much as a real blitter.

Being shareware you can try *Quick ST* out with your collection of software before parting with the cash or opting for an alternative. Be warned, using *Quick ST* will seriously increase your productivity.

Contact: Shareware, try PD Libraries.
Price: About £3 ($20 to register)

FOR
- ▲ Transforms blitter-less STs
- ▲ Price
- ▲ Try before you buy

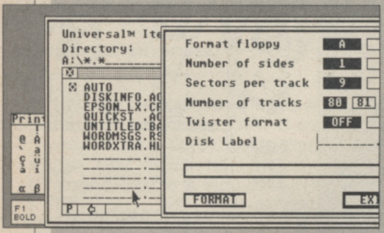
AGAINST
- ▼ Incompatible with some software
- ▼ Uses valuable memory
- ▼ Not as fast as real blitter



by Darek Mihocka & Ig
(C) 1989. This program is sh
* - sta
For a $20 shareware contributio
Quick ST update disks. For Just
get Quick View, Quick Print, Qu
Quick Index, Quick CLI, and fut
Send a check or MO to: Dar
P.O. Box 2624,
Kitchener, Ontario,
Phone (519)-747-0386 if you h
Support shareware for more
Also available: ST Xformer 2.5

*• **Quick ST** in action. Text output gets a big boost on blitter-fitted STs.*

LIFE, THE *UNIVERSAL ITEM SELECTOR* AND EVERYTHING



Format floppy A
Number of sides 1
Sectors per track 9
Number of tracks 80 81
Twister format OFF
Disk Label

• UIS 3's versatile format menu puts you in charge of a far more flexible way to denude your disks of data.

For one of the most frequently used parts of GEM, the file selector can hardly be described as a model of flexibility. The *Universal Item Selector (UIS)*, now in its third incarnation offers a replacement to the GEM item/file Selector. Copying the program into your AUTO folder and calling the file selector will bring *UIS* up.

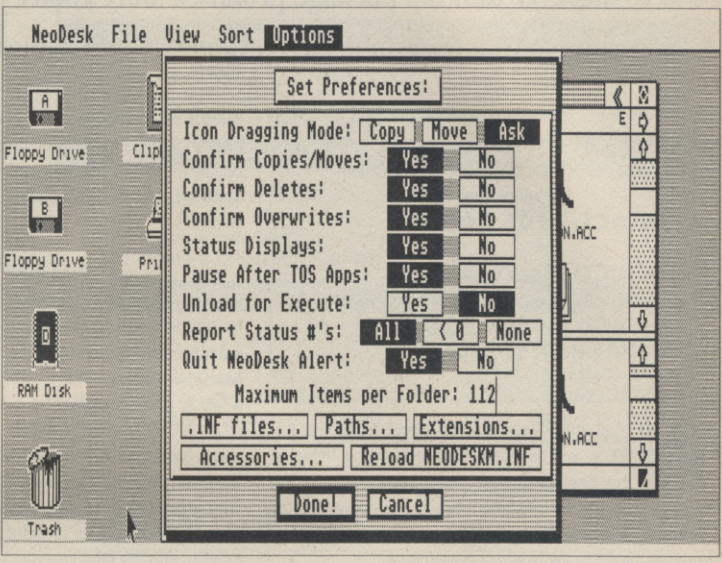
At the most basic level *UIS* can be used in exactly the same way as its GEM counterpart, ie to select a file. Using the inbuilt menu, *UIS* can be configured to display anything from 12 to 128 files. In addition to all the standard file selector functions, *UIS* has the ability to format disks, create folders, copy files and almost any operation you would usually carry out from the GEM desktop. All this is available from within your favourite GEM application! It is a shame that *UIS* has to be labelled a 'replacement file selector' as it offers so much more. In fact, if you use your ST for anything other than games, *UIS* is essential.

Contact: The ST Club. Tel: (0602) 410241.

FOR
- ▲ Almost all desktop operations supported.
- ▲ Good manual.
- ▲ Very few incompatibility problems

AGAINST
- ▼ No 'copy disk' option.
- ▼ Some advanced features can be a bit obscure.

COST: £19.95 inc. P&P



Icon Dragging Mode: Copy Move Ask
Confirm Copies/Moves: Yes No
Confirm Deletes: Yes No
Confirm Overwrites: Yes No
Status Displays: Yes No
Pause After TOS Apps: Yes No
Unload for Execute: Yes No
Report Status #'s: All < 0 None
Quit NeoDesk Alert: Yes No
Maximum Items per Folder: 112

• NeoDesk 3's preferences menu enables you to specify a welter of alert messages, modes and more, but all this flexibility suffers somewhat at the hands of a rather user-unfriendly starting out page in the manual, as is also the case with Double Click Software's DC Desktop.

But once up and running, NeoDesk 3 offers a very intuitive environment which has a similar 'feel' to that of the ST's standard GEM, but offers many more useful features.

exactly as if you had clicked on it from its original folder. NeoDesk handles this superbly, just drag the icon from the window and put it where you would like it. DC, on the other hand, requires you to press the F2 key to access the DC Icon Installer and locate the file using the file selector; clicking OK will return you to the desktop where you will find the newly istalled icon.

In addition to the usual icons found on the desktop, DC Desktop and NeoDesk add three extra icons. One is the recoverable trash can. This works in the same way on both systems. Dragging a file to the recoverable trash can will delete the file from the directory, but it is not fully deleted until the trash can is emptied. This feature is only really usable on a hard disk system.

The second new icon operates in a slightly different way on each system; NeoDesk offers a 'Clipboard' which operates in exactly the same way as a RAMdisk that expands and shrinks to the size of the files contained in it. The clipboard does not have a drive letter and is not a real RAM disk – it is only accessible from NeoDesk and, as such, cannot be used by other programs. DC Desktop offers a 'Cabinet' which is similar in concept to dropping icons on the desktop. Copying files to the cabinet does not copy the actual file but instead copies the location and icon of the file. This is handy if you reach the 24-icon limit on the desktop and would like more programs directly accesible.

In addition to the recoverable trash and the clipboard/cabinet, both systems offer a printer icon; files can be dragged to the printer icon and will be spooled, printing while you continue to use the desktop.

AND THE REST

One of the main deficiencies of DC Desktop is keeping the old GEM desktop in place. This automatically limits you to the standard four-window maximum and offers no enhanced formatting, copying or Macro options. NeoDesk lets you have up to seven open windows and uses its own custom-designed windows, which include select all, text/icon toggle, split window display and much more.

The GEM desktop's inflexible formatting and copying routines have been completely re-written to allow copying and formatting of non-standard disks. Intelligent file copying routines mean that only one disk swap is needed to copy a hundred 1K files on a single disk system, for example. Another advantage of NeoDesk is its Macro handling: selecting 'Start Macro' from the menu bar will record all operations until 'End Macro' is selected. You can then give the macro a name and keyboard shortcut. Pressing the assigned key automatically carries out the recorded tasks.

MAKE YOUR MIND UP TIME

Choosing between DC Desktop and NeoDesk 3 really depends on how much you use the desktop. DC Desktop certainly cheers up the desktop for a very reasonable price. However, one can't help wondering how a new user is going to cope with the rather complex and detailed manual.

NeoDesk 3 is very intuitive, and has exactly the same 'feel' as the GEM desktop but offers so many more features. New users will have no problems with the manual or operation. DC Desktop is undoubtedly a useful piece of sofware but until DC Desktop 2 arrives, NeoDesk 3 retains its title of the 'Ultimate Desktop Replacement'. ■

MULTI-TASKING ST ON THE HORIZON?

The version of GEM built into the ST has limited multi-tasking abilities in the form of desk accessories and, although desk accessories are available to perform almost any task, wouldn't it be nice to be able to load your text editor from within your desktop publisher for example?

This may not be as far from reality as it seems; German company Maxon is about to release MultiGEM into the hands of the power hungry German ST community. An advert running in most popular German magazines shows MultiGEM multi-tasking its way through *Calamus*, *Tempus Word*, *Dynacad*, *Hyperchart*, *First Word Plus* and *Draughts*! Watch out for the exclusive review in *Express* soon.

DC DESKTOP – THE VERDICT

FOR
- ▲ Excellent icon designer
- ▲ Price – less than most games
- ▲ Re-definable keyboard shortcuts
- ▲ Modular design means easy expansion and low memory usage.

AGAINST
- ▼ No advantages over normal desktop on copy and format operations
- ▼ Utilities are only accessible through function keys
- ▼ No 'Size to fit' – icons must still be scrolled left and right a la GEM desktop

COST £19.95 + £1 P&P

NEODESK 3 – THE VERDICT

FOR
- ▲ Completely menu driven with keyboard shortcuts
- ▲ Macro support - invaluable for repetitive copy operations
- ▲ Clipboard
- ▲ Intelligent file copying
- ▲ Recoverable trash
- ▲ Very intuitive

AGAINST
- ▼ Memory hungry but will unload itself when you run a program
- ▼ Text 'Show' not greatly improved

COST £39.95 inc. P&P

Commodore
CARTOON CLASSICS
AMIGA 500
DPAINT III
ARCADE ACTION GAMES PACK
WITH 1Mb RAM

AMIGA

STAND-ALONE 500 COMPUTER

● 512K AMIGA	£329.99
● TV MODULATOR	FREE
● MOUSE CONTROLLER	FREE
***PLUS!* - FREE FROM SILICA**	
● ARCADE ACTION PACK	£229.78
● PHOTON PAINT 2.0	£89.95
TOTAL RRP:	£649.72
YOU SAVE:	£320.72
SILICA PRICE:	**£329**

PLUS! ***FREE*** HOLIDAY ACCOMMODATION

ARCADE ACTION GAMES PACK

£329

SILICA PRICE - INCLUDES VAT + FREE DELIVERY

NEW! CARTOON CLASSICS PACK

HARDWARE:	
512K AMIGA 500	£329.99
A520 TV MODULATOR	FREE
A501 RAM EXPANSION	£99.99
SOFTWARE - ENTERTAINMENT	
BART SIMPSON	£24.99
CAPT PLANET & PLANETEERS	£25.99
LEMMINGS	£25.99
SOFTWARE - PRODUCTIVITY	
DELUXE PAINT III	£79.99
PLUS! FREE FROM SILICA	
ARCADE ACTION PACK	£229.78
PHOTON PAINT 2.0	£89.95
TOTAL RRP:	£906.67
YOU SAVE:	£507.67

PLUS! 16 NIGHTS FREE HOLIDAY ACCOMMODATION

£399

SILICA PRICE - INC VAT + FREE DELIVERY

FREE! FROM SILICA WITH EVERY AMIGA

ARCADE ACTION PACK

The new Arcade Action Games Pack is THE software compendium for Amiga owners, featuring ten top titles with a variety of different types of games for you to enjoy. Each title is packaged in its own plastic case, with a colour sleeve and full instructions. The Arcade Action Pack is FREE! when you buy your Amiga 500 from Silica.

FREE! WORTH: **£219.78**

ARCADE ACTION GAMES PACK
CHESS PLAYER 2150
LIVE AND LET DIE

TOTAL FREE PACKAGE

ARCADE ACTION PACK - £229.78:	
Asterix - *By Coktel Vision*	£24.99
Chess Player 2150 - *By CP Software*	£24.95
Drivin' Force - *By Digital Magic*	£24.95
Live & Let Die - *By Elite*	£19.99
Onslaught - *By Hewson*	£24.99
Pipe Mania - *By Empire Software*	£24.99
Rick Dangerous - *By Firebird*	£24.99
Rock 'n' Roll - *By Rainbow Arts*	£19.99
Skweek - *By US Gold*	£19.99
Trivial Pursuit - *By Domark*	£19.95
ART PACKAGE - £89.95:	
Photon Paint 2.0 - *By MicroIllusions*	£89.95
TOTAL RRP:	£319.73

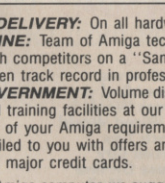
FREE! WORTH NEARLY: **£320**

PLUS! ***FREE*** HOLIDAY ACCOMMODATION

FREE! PHOTON PAINT 2.0 GRAPHICS PACKAGE

Every Amiga 500 from Silica Systems comes with a FREE Photon Paint 2.0 (RRP £89.95), one of the most advanced art packages available for the Amiga. With it, you will be able to harness the extraordinary graphics power of the Amiga and produce inspirational pictures in minutes. With 4096 colours, your pictures will reach life-like appearance. These can be animated in real-time using a vast range of graphical effects, including blending colours and dithering, stencils, shadowing, contour mapping and surface mapping.

WORTH **£89.95**



FREE! 16 NIGHTS HOLIDAY HOTEL ACCOMMODATION

Every Amiga from Silica comes with a FREE 72 page, full colour brochure with accommodation vouchers. These vouchers entitle 2 people to stay up to 16 nights in one hotel (or any number of hotels to a total of 16 nights) with accommodation FREE (you could take up to six nights for four people, or other options). Choose from the 250 hotels featured in the catalogue. All you have to pay for are your meals (prices are listed in the brochure). Reduced rates in top London hotels and hotels in France are also featured.

SILICA SYSTEMS OFFER YOU

- ***FREE OVERNIGHT COURIER DELIVERY:*** On all hardware orders shipped in the UK.
- ***TECHNICAL SUPPORT HELPLINE:*** Team of Amiga technical experts at your service.
- ***PRICE MATCH:*** We normally match competitors on a ''Same product - Same price'' basis.
- ***ESTABLISHED 12 YEARS:*** Proven track record in professional computer sales.
- ***BUSINESS + EDUCATION + GOVERNMENT:*** Volume discounts available for large orders.
- ***SHOWROOMS:*** Demonstration and training facilities at our London & Sidcup branches.
- ***THE FULL STOCK RANGE:*** All of your Amiga requirements from one supplier.
- ***FREE CATALOGUES:*** Will be mailed to you with offers and software/peripheral details.
- ***PAYMENT:*** By cash, cheque and all major credit cards.

Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for over 12 years and, with our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the ''Silica Systems Service''.

☎ MAIL ORDER HOTLINE **081-309 1111**

SILICA SYSTEMS

MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX **Tel: 081-309 1111**
Order Lines Open: Mon-Sat 9.00am-6.00pm No Late Night Opening Fax No: 081-308 0608

LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA **Tel: 071-580 4000**
Opening Hours: Mon-Sat 9.30am-6.00pm Late Night: Thursday until 8pm Fax No: 071-323 4737

LONDON (SELFRIDGES): 1st Floor, 369 Oxford Street, London, W1A 1AB **Tel: 071-629 1234**
Opening Hours: Mon-Sat 9.30am-6.00pm Late Night: Thursday until 8pm Ask for extension 3914

SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX **Tel: 081-302 8811**
Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday until 7pm Fax No: 081-309 0017

To: Silica Systems, Dept NCE 0791 - 60, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND FREE AMIGA COLOUR CATALOGUE

Mr/Mrs/Ms: .... Initials: .... Surname: ....

Address: ....

....

....

Postcode: .... Tel: ....

Which computer(s), if any, do you own? ....

E&OE - Advertised prices and specifications may change - please return the coupon for the latest information.

HOW TO BE A HOT SHOT!

Forget about your joystick – get your hands on a laser gun and get ahead in your game playing. We're giving away 25 Trojan Light Phazers for free

• More joy than a joystick – the Trojan Light Phazer Gun

A joystick's OK, but to get engrossed in a serious shoot-'em-up it's better to have something that you can point and aim with. *Express* is giving away more than £1,000 worth of light guns to give you the edge on the aliens.

And it's not limited to one machine. The Trojan Light Phazer is available for the Amiga, ST, C64, Amstrad CPC 464/6128 and Sinclair Spectrum so there's something for everyone.

The Phazer is shaped like a *Star Wars* pistol and is held in much the same way. A combination of clever software and a light sensitive sensor in the Phazer mean that if your aim is true, you'll score

The Trojan Light Phazer is a challenge of skill for all ages. You can unleash your imagination on the software provided in each pack. Prove that you're a great shot by answering these few questions and you could be shooting sooner than you think.

So all you have to do is answer the five questions in the box below and complete the following tie-breaker in less than 12 witty words: "Express lights up my life because ...."

Send your entries on the back of a postcard or envelope to: Is that a gun in your pocket? Compo, *New Computer Express,* 29 Monmouth Street, Bath, Avon BA1 2DL. ■

THE QUESTIONS YOU'VE ALL BEEN WAITING FOR...

1) Which company sells the Light Phazer in the UK?
a) Ministry of Defence
[✓ b)] Trojan
c) Welsh Tourist Board
d) National Lampoon Inc

2) If a Laser uses light, what does a Maser use?
a) Mud pies
b) Multiples
c) Memory
[✓ d)] Microwaves

3) Which travels fastest?
a) An Inter City 125
b) A National Express Coach
[✓ c)] Light
d) Sound

4) Which classic LP sleeve featured light being refracted through a prism on a black background?
a) Tubular Bells (Mike Oldfield)
b) Pyramid (Alan Parsons)
c) Autobahn (Kraftwerk)
d) Dark Side Of The Moon (Pink Floyd)

5) Which film popularised the laser wand as a weapon?
a) The Bible
b) A Clockwork Orange
[✓ c)] Star Wars
d) 1984

MAKE SURE YOU GET A COPY OF NEXT WEEK'S EXPRESS

Complete this form and hand it to your newsagent

TO THE NEWSAGENT: Please reserve me .... copy/copies of *New Computer Express* every week, beginning with issue 143, out on 3 August.

NAME ....

ADDRESS..

....

TELEPHONE NUMBER ....

To the newsagent : *New Computer Express* is published by Future Publishing and is available from your local wholesaler. Send back all your Future shop save coupons for entry in a free draw to: Kate Hodges, Future Publishing, 30 Monmouth Street, Bath BA1 2BW.

COMING NEXT THURSDAY

CDTV multimedia
Express checks out Commodore's first entry into consumer electronics

Postscript printers
High quality output for your ST or Amiga

PC beginners
We show you how you can learn to survive in the PC jungle with the PC Crash Course

PLUS
- **Hot news**
- **Front End**
- **Games Week**
- **Whole Wired World**
- **Tech Tips**
- **Circuit City**
- **Express On-line**
- **Express Mail**
- **The PD Column**
- **Programming**
- **Columns for: Amiga, CPC, C64, Macintosh,PC, Spectrum and ST**

AND
TURBO CHARGE YOUR PC UP TO 25MHZ

NEW COMPUTER EXPRESS

EDITOR • Andy Storer
NEWS EDITOR • Tim Smith
PRODUCTION EDITOR • Julie Tolley
REVIEWS/TECHNICAL EDITOR • Keith Pomfret
ART EDITOR • Amanda Cook
STAFF WRITERS • Dave Golder • Tim Howell
GAMES REVIEWER • Stuart Campbell

CONTRIBUTORS:
• Steve Gold • Jason Holborn
• Frank O'Connor • Haydn Fitz-Williams
• Mary Branscombe • Robin Alway
• Andrew Roberts • Cliff Ramshaw
• Andy Hutchinson • Ian Wrigley
• Rod Lawton • Paul Rigby

CIRCULATION DIRECTOR • Sue Hartley
AD MANAGER • Mike Jennings
SENIOR SALE S EXECUTIVE • Tim Partridge
AD EXECUTIVES • Siobhan Kennedy-Coyne • Charlie Nicholls
AD PRODUCTION • Frances Wasem
AD TYPESETTING • Terry Mackereth
PRODUCTION TECHNICIANS • Simon Windsor • Chris Stocker • Jerome Clough
PUBLISHER • Steve Carey
ABC audited circulation July-December 1990:20,204 copies per week
We regret we cannot enter into any personal correspondence. Technical enquiries should be addressed to Tech Tips at the address below. While every care is taken in the preparation of *New Computer Express*, Future Publishing cannot be held responsible for the consequences of any errors that may occur.
• Subscriptions: The Old Barn, Somerton, Somerset (0458) 74011
• Printed by Redwood Press, Melksham, Wilts
• Distributed in UK and Eire by Future Publishing (0225 442244), rest of world by Comag (0895 444055)
© Future Publishing Ltd 1991

CONTACTS
Tel: 0225 442244 Fax:482018
E-mail : ASPECTS : 061 792 0260
CIX @ astorer
GOLD @ 84:TXT152
PRESTEL @011112623

'Your guarantee of value'

30 Monmouth Street, Bath BA1 2BW
This magazine comes from Future Publishing, a company founded just six years ago, but which now sells more computer magazines than any other publisher in Britain. We offer:

Better advice. Our titles are packed with tips, suggestions and explanatory features, written by the best in the business.

Stronger reviews. We have a cast-iron policy of editorial independence, and our reviews give clear buying recommendations.

Clearer design. You need solid information fast. So our designers highlight key elements by using charts, diagrams, summary boxes, annotated photographs, etc.

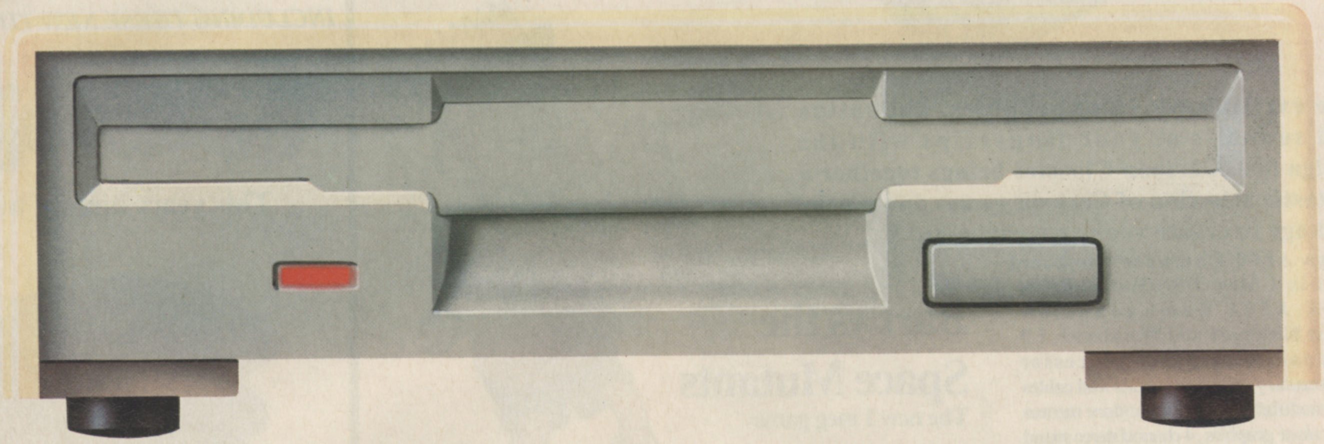
More reader interaction. We draw strongly on readers' contributions, resulting in the liveliest letters pages and the best reader tips. Buying one of our magazines is like joining a nationwide user group.

Better value for money. More pages, better quality: magazines you can trust.

Home of Britain's finest computer magazines.

New Computer Express
Amiga Format • ST Format
Amiga Power • Amiga Shopper
PC Plus • PC Answers • 8000 Plus
Amstrad Action • Your Sinclair
Commodore Format • Sega Power

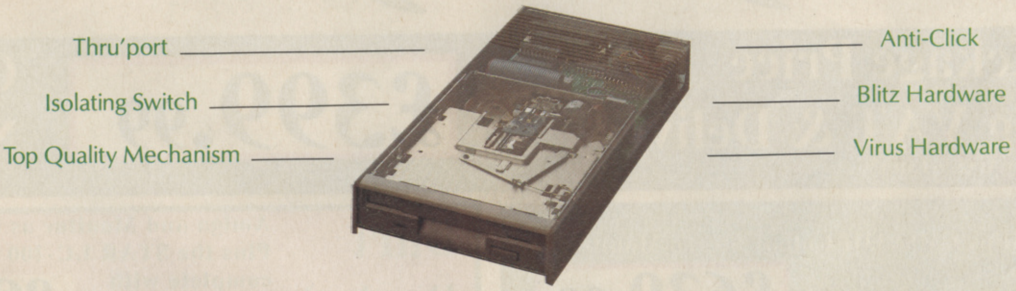
Where you can stick it.



Viruses, disk swapping, clicking drives, disks which won't back up. Is there no end to the whingeing of the Amiga user?

At Power, we want to tell you just where you can stick your disks and worries. In fact we will show you. The slot in this picture belongs to our PC880B, the first intelligent disk drive. Insert a disk.

Now you can back up at lightning speeds using the inbuilt Blitz Amiga hardware, with free software, (even if the disk is Atari or PC) and if your computer has a virus the PC880B will stop it being written to the bootblock of any of your drives, though you can still save files as normal.



When you do not want these features, switch them off and the PC880B will sit quietly, without clicking, pretending to be simply an extra drive.

The PC880B, the only drive to introduce Blitz Amiga, the power anti-click device and to combat viruses, is only available direct from Power, priced at just **£65.**

We have noticed how pricey unintelligent drives are. Perhaps, its your turn to tell people where to stick it.

1988 COPYRIGHT ACT
Power Computing Ltd., neither condones nor authorises the use of it's products for the reproduction of copyright material.
The backup facilities of this product are designed to reproduce only software such as Public Domain material, the user's own programs or software where permission has been clearly given.
It is illegal to make copies, even for your own use, of copyright material, without the express permission of the copyright owner, or the licencee thereof.

£65

Only available at

POWER COMPUTING LTD
Unit 8 Railton Road Woburn Road Industrial Estate Kempston Bedford MK42 7PN
Tel: 0234 843388 Fax: 0234 840234

Price includes VAT and is subject to change. Specifications are subject to change without notice.

Move Over 'Screengems' The New Official Commodore Amiga Pack is at Digicom

NOTICE : The RAM upgrade supplied in this offer is the official COMMODORE A501 Expansion unit. Any other Expansion will invalidate your warranty .Should the fault be related in any way

AMIGA 500 CARTOON CLASSICS

Free 1 Meg Worth £99.00

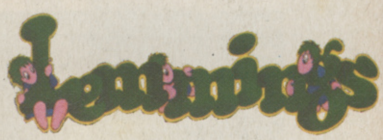
The exciting world of graphics, animation and sound is at your fingertips with the Amiga 500. Cartoon Classics brings together a fantastic selection of Cartoon games and a paint package to create your own cartoons.

Amiga A500 Computer Keyboard
Built-in 1 Meg DS/DD disk drive
512K A501 RamExpansion
Latest Kickstart and Workbench 1.3
Notepad Mini word- processor
All necessary disks , manuals and cables
T.V modulator and Commodore mouse
4096 colour graphics , 4 channel stereo sound
12 months warranty on all items
Full U.K specification machine

Bart vs the Space Mutants

The new 1 meg game

INCLUDING THESE NEW TITLES



This years biggest hit

CAPTAIN PLANET
AND THE PLANETEERS

AND OUR OWN EXTRAS PACK

Accessories

Mircoswitched joystick
Disk Library Case
10 Blank disks
High quality mouse mat and dust cover

Five Game Pack

Turbo Outrun
Enduro Racer
Super Wonder Boy
Thunder Blade
Crackdown

A Top Title

Kick Off 2
1 Meg version
Voted European Game Of The Year

With Animation

Total Package Price Including VAT & Delivery

Next Day Courier Delivery At £5.50 Extra

£399.99 CALL NOW

Bart Pack 1 Amiga Cartoon Classics Pack as above plus Philips CM8833II Colour Stereo Monitor plus leads and dust cover **£639.99**

Bart Pack 2 Amiga and Monitor as in Bart Pack 1 Plus the STAR LC-200 Colour Printer complete with dustcover and leads **£839.99**

HOW TO ORDER

By Phone :

Call our credit card order line, and quote your credit card details to our helpful sales staff. We accept Access, Visa, Eurocard, Mastercard, AMEX and the new direct debit cards like Switch and Barclays Connect.

By Mail :

Simply write down the details of our order along with your name and address, then post it to us with a personal cheque,postal order, bankers draft or building society cheque made payable to, "Digicom Computer Services Ltd".

Personal cheques require time to clear before despatch

Prices and Specifications are subject to change without notice, Goods are not sold on a trial basis. E&OE.

DIGICOM

(0908) 378008

36-37 Wharfside
Fenny Stratford
Watling Street
Milton Keynes MK2 2AZ
Showroom open Mon-Sat 9.00am-5.30pm
(closed between 12.30-1.30 pm)
Wharfside is opposite the Bridge Pub on the A5 Watling Street

Digicom offers you !

- ☐ Free Catalogue with all orders
- ☐ 12 months guarantee period
- ☐ All product tested before despatch
- ☐ Regular newsletters and special offers
- ☐ Technical helpline
- ☐ 30 day replacement of faulty product
- ☐ Price or product match
- ☐ Computerised order system

Access VISA MasterCard SWITCH

All Major Credit Cards Accepted